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2014-2015-2016-2017-2018-2019

OF ALL SECONDARY BOARDS

IN ACCORDANCE WITH THE

ACCELERATED LEARNING PROGRAMME (ALP)

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BIOLOGY

11

INTER PART I

- CHAPTER WISE QUESTIONS
- ANNUAL PAPERS

(FROM PREVIOUS ALL PUNJAB & AJK BOARD PAPERS)

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BIOLOGY

• CHAPTERWISE QUESTIONS
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INTER PART I

Hamdard Kutab Khana
Technical & Educational Publishers

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INSTRUCTIONS

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Subjects

MDCAT BY FUTURE DOCTORS (TOUSEEF AHMAD)

Smart Syllabus Biology (Intermediate Part I)

CHAPTER 1: INTRODUCTION

Biology and some major fields of specialization, Biological method, Biology and the service of mankind (including the subtopics "Disease Control", "Preventive medicine", "Vaccination and Immunization", and "Drug Treatment/ Chemotherapy") (Pg. 1-13)

Practicals: No practical

Questions

Classwork: Fill in the blanks (i-v), True and false (vi), Multiple choice questions (i,iv)

Homework: Short questions (i-iv), Extensive questions (i, iv, v)

CHAPTER 2: BIOLOGICAL MOLECULES

Introduction to biochemistry, Importance of water, Carbohydrates (excluding the subtopics "monosaccharides", "oligosaccharides", "polysaccharides"), Lipids (excluding the subtopics "acylglycerols", "waxes", "phospholipids", "terpenoids"), Proteins: Structure of proteins, Nucleic acids (excluding the subtopics "DNA" and "RNA") (Pg. 17-35)

Practicals

1. Identification of biochemical from biological materials
2. Iodine test for starch
3. Benedict's test for reducing sugars
4. Millon's test for Proteins/Biuret test for proteins
5. Sudan III test for fats and oils and emulsion test

Questions:

Classwork: Fill in the blanks (i, ii), True and false (i), Multiple choice questions (iv)

Homework: Short questions (ii, iv and v), Extensive questions (i, iii)

CHAPTER 3: ENZYMES

Introduction, Characteristics of enzymes, Mechanism of enzyme action (catalysis), Inhibitors, Irreversible inhibitors, Reversible inhibitors (competitive & non-competitive inhibitors) (Pg. 37-47)

Practicals: Study of starch break down in germinating grain seeds.

Questions:

Classwork: Fill in the blanks (i-iv), True and false (i-v), Multiple choice questions (No)

Homework: Short questions (i, iii-v), Extensive questions (1, 3, 4)

CHAPTER 4: THE CELL

Structure of a prokaryotic cell: Plasma membrane, Cell wall, Cytoplasm, Endoplasmic reticulum, Ribosomes, Golgi apparatus, Lysosomes, Vacuoles, Cytoskeleton, Centrioles, Mitochondria, Plastids (Chloroplasts, Chromoplasts, Leucoplasts), Nucleus (complete) Prokaryotic and eukaryotic cell (Pg. 48-64)

Practicals: Study of animal cells (frog's epithelium cell, frog's buccal cavity cells) and plant cells (mesophyll cells, leaf epidermis cells, onion epidermis cells) by staining with safranin, acid fuchsin, methylene blue, eosine

Questions:

Classwork: Fill in the blanks (i-v), True and false (i-v), Multiple choice questions (i-v)

Homework: Short questions (i-vi), Extensive questions (i, v)

MUHAMMAD TUTOR (TOUSEEF AHMAD)

CHAPTER 5: VARIETY OF LIFE

Introduction, Nomenclature, Two to five kingdom classification systems, Viruses (excluding the introductory paragraphs), Characteristics, Structure, Life cycle of bacteriophages, Some viral diseases: small pox, herpes, influenza, mumps and measles, polio, AIDS, Hepatitis (Pg. 67-80)

Practicals: No practical

Questions:

Classwork: Fill in the blanks (i-x), Multiple choice questions (i-xiv)

Homework: No Short question, No extensive question

CHAPTER 6: KINGDOM PROKARYOTAE (MONERA)

Structure of bacteria, Size, Shape of bacteria, Bacterial cell structure (complete topic page 86 to 89), Nutrition of bacteria, Respiration in bacteria, Growth and Reproduction, Control of bacteria (Physical methods, Chemical methods), Use and [illegible] of antibiotics, Characteristics of Cyanobacteria (Pg 81-91)

Practicals:

1. Laboratory safety techniques and use of microscope and measurement of microscopic objects by micrometry.
2. Investigation of bacterial content of fresh and stale milk.
3. Study of Nostoc from fresh material and prepared slides.

Questions:

Classwork: Fill in the blanks (i-vi, vii), Multiple choice questions (i-vi)

Homework: Short questions (i, a, b, ii-iv), Extensive questions (i-iii, v)

CHAPTER 7: THE KINGDOM PROTISTA (OR PROTOCTISTA)

Introduction, Major groups of Protists, Protozoa: Animal-like protists, Amoebas, Zooflagellates, Ciliates, Algae: Plant-like protists, Euglenoids, Brown algae, Red algae, Green algae, Importance of algae, Fungus-like protists, Slime molds, Water molds (Pg. 92-111)

Practicals: Identification of Chlorella, Paramecium, Amoeba, Entamoeba, Plasmodium (malaria parasite), Euglena, Volvox, Ulothrix and Ulva from fresh materials or prepared slides.

Questions:

Classwork: Fill in the blanks (i, ii, v-viii)

Homework: Short questions (i, iv, v), Extensive questions (i-ii)

CHAPTER 8: FUNGI (The Kingdom of Recyclers)

Introduction, The body of fungus, Nutrition in fungi, Reproduction, Asexual reproduction, Sexual reproduction, Classification of fungi, Zygomycota, Ascomycota, Basidiomycota, Deuteromycota, Importance of fungi, Ecological importance, Commercial importance, Economic gains due to fungi, Economic losses due to fungi (Pg 113-126)

Practicals: Study of yeast, Oidiopsis tritici and Penicillium from fresh materials and slides.

Questions:

Classwork: Multiple choice questions (i-vii)

Homework: Short Questions (i-v), Extensive questions (i-iii)

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CHAPTER 9: KINGDOM PLANTAE

Classification of Plantae, Division Bryophyta, Adaptation to land habitat, Division Tracheophyta, Evolution of leaf, Evolution of seed habit, Class Gymnosperms (excluding the subtopic "Pines - life cycle"), Class Angiosperms, Life cycle of an angiospermic plant, Seed formation, double fertilization, Classification of angiosperms (excluding the topic and subtopics of "Angiospermic families") (Pg. 133-153)

Practicals:

1. Examination of Marchantia and Funaria (external morphology) from fresh material and of sex organs from prepared slides
2. Study of Pinus male and female cones from fresh or preserved materials.

Questions:

Classwork: Fill in the blanks (i-iv), Multiple Choice Questions (i-iv)

Homework: Short Questions (i, ii, iv, vii), Extensive questions (i-vi)

CHAPTER 10: KINGDOM ANIMALIA

Introduction, Grade Radiata, Grade Bilateria, Diploblastic and triploblastic organization, Acoelomates, pseudocoelomates, coelomates, Grade protostomia & deuterostomia, Phylum Porifera, Phylum Coelenterata (excluding the subtopics "Polymorphism"), Phylum Platyhelminthes (excluding the subtopics "infestation" and "disadvantage"), Adaptation for parasitic mode of life, Aschelminthes (Phylum Nematoda), Phylum Annelida (excluding the subtopics of classes "Polychaeta", "Oligochaeta", and "Hirudinea"), Phylum Arthropoda (excluding the subtopics of classes "Crustacea", "Insecta", "Arachnida", and "Myriapoda"), Metamorphosis, Economic importance of arthropods, Phylum Mollusca (excluding the subtopics of classes "Gastropoda", "Bivalvia" and "Cephalopoda"), Economic importance of Molluscs, Phylum Echinodermata, Echinodermata / Affinities, Phylum Chordata, Sub-phylum Vertebrata , Class Chondrichthyes, Class Osteichthyes (excluding the subtopic "adaptations for aquatic life, Class Amphibia, Class Reptilia, Class Aves, Characters of Birds, Class Mammalia, Sub-class Prototheria, Sub-class Metatheria, Sub-class Eutheria (Pg. 167-200)

Practicals: Dissection of respiratory system of frog.

Questions:

Classwork: Fill in the blanks (i-v), Multiple choice questions (i, ii, iv, v, vi, vii)

Homework: Extensive questions (i, ii, vii, viii)

CHAPTER 11: BIOENERGETICS

Introduction, Photosynthesis, Photosynthetic reactions and products, Water and photosynthesis, Photosynthetic pigments (Chlorophyll, Carotenoids), Reaction centre, pigment systems, Light dependent reactions, Non-cyclic photophosphorylation, Cyclic photophosphorylation, Chemiosmosis, Light independent (or dark) reactions, Respiration, Aerobic and anaerobic respiration, Anaerobic Respiration (alcoholic fermentation, lactic acid fermentation), Cellular Respiration, Glycolysis, Pyruvic acid oxidation, Krebs cycle, Respiratory chain (Pg. 206-238)

Practicals: Extraction and chromatography of leaf chloroplast pigments.

Questions:

Classwork: Fill in the blanks (i-v), Multiple choice questions (i-iii)

Homework: Extensive questions (i-iii, vii-ix, xii, xiii)

MR. AHMAD (BEAHMAD)

CHAPTER 13: NUTRITION

Methods of plant nutrition (saprophytic nutrition, parasitic nutrition, symbiotic nutrition, nutrition in insectivorous plants), Digestion and absorption, Digestion in Man, Digestion in oral cavity, Digestion in stomach, Digestion in small intestine, Absorption of Food, Large intestine, Some common diseases related to nutrition (Dyspepsia, Food poisoning, Cholera, Ulcer) (Pg. 215-234)

Practicals: Study of T.S of liver, stomach, small intestine and large intestine of man prepared slides.

Questions:

Classwork: Fill in the blanks (1-10), True and false (1-10), Multiple choice questions (1-10, 13-32, 36)

Homework: Short questions (1, 2, 3, 11), Extensive questions (1-11, 16-18, 20-22)

CHAPTER 14: GASEOUS EXCHANGE

Advantages and disadvantages of gas exchange in air and water, Gaseous exchange in plants, Properties of respiratory surfaces, Respiration in man, Air passage ways, Inspiration, Expiration, Transport of respiratory gases, Transport of oxygen, Transport of carbon dioxide, Carbon dioxide concentration in arterial and venous blood, Respiratory disorders (Cancer, Tuberculosis, Asthma), Role of respiratory pigments, Lung capacities (Pg. 239-275)

Practical: No practical

Questions:

Classwork: Fill in the blanks (1-10), True and false (1-10), Multiple choice questions (1, 10-14)

Homework: Short questions (1-4), Extensive questions (1, 4-14)

CHAPTER 14: TRANSPORT

Transport in plants - Uptake and transport of minerals and water, Mineral absorption by roots, Processes involved in absorption by roots, Uptake of water by roots, Apoplast pathway, Symplast pathway, Vacuolar pathway, Ascent of sap, Cohesion tension theory, Mechanism of transpiration pull: in cohesion and tension theory, Root pressure, Imbibition, Guttation, Opening and closing of stomata, Mechanism of phloem translocation/transport, Diffusion, Pressure flow theory, Circulatory system, Characteristics of circulatory system, Open and closed circulatory system, Comparison of open and closed circulatory system, Transport in man, The circulatory fluid - the blood, Functions of blood, Disorders (blood cancer, thalassaemia), Pumping organ - The heart, Structure and action, The cardiac cycle, Mechanism of heart Excitation and Contraction, Electrocardiogram, Artificial pace-maker, Blue babies, Blood vessels, Arteries, Capillaries, Veins, Blood pressure and rate, Blood flow, Hypertension, Thrombus formation and hypertension, Heart attack, Stroke, Hemorrhage, Lymphatic system, Immunity, Types of immunity (Pg. 276-327)

Practicals:

1. Demonstration of osmosis in living plant cells, (manifested by plasmolysis and deplasmolysis of onion cells or spirogyra.
2. Study from prepared slides of internal structure of monocot and dicot root, stem and leaf.

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3. Investigation of seasonal distribution (using clinical and laboratory or epidemic port)
4. Study of prepared, stained slide of human blood including identification of phagocytes and lymphocytes and preparation of slide of blood smear of frog.
5. Study of anatomy of artery, vein, capillary from their T.S. (Prepared Slides).
6. Study of effect of acetylcholine and adrenaline on the heartbeat of frog.
7. Dissection of blood circulatory system of frog (heart and main blood vessels).
8. Measurement of blood pressure during rest and after exercise with B.P apparatus.

Questions:

Classwork: Fill in the blanks (1-6), Multiple choice questions (1-6), True and false (1-6)

Homework: Extensive questions (1-6, 10, 16)

CONTENTS

Chapter Wise Questions 2014 - 2019

Annual Papers 2014-2019

MUHAMMAD TOUSEEF (MAD) REGISTERED TO TOUSEEF

CHAPTER 01

Introduction

MULTIPLE CHOICE QUESTIONS (MCQ's)

1. The study of distribution of animals in nature is called: [illegible]
   (A) Zoogeography (B) Biodiversity (C) Biogeography (D) [illegible]
2. The study of internal structure is: [illegible]
   (A) Morphology (B) Anatomy (C) Histology (D) Physiology
3. The number of species identified so far is: [illegible]
   (A) 10 million (B) 5 million (C) 2.5 million (D) 1.5 million
4. The branch of biology which deals with the study of ancestral history of living organisms is called as: [illegible]
   (A) Paleontology (B) Zoogeography (C) Evolution (D) Genetics
5. Embryology is the study of: [illegible]
   (A) Fossils (B) Tissues
   (C) Development (D) Internal gross structure
6. In human body, amount of phosphorous is: [illegible]
   (A) 1% (B) 2% (C) 3.5% (D) 7.7%
7. Mammals became dominant in: [illegible]
   (A) Mesozoic period (B) Cenozoic period
   (C) Paleozoic period (D) Jurassic period
8. The study of microorganism includes bacteria, virus, protozoan and microscopic algae and fungi is: [illegible]
   (A) Microbiology (B) Parasitology (C) Molecular biology (D) Biotechnology
9. The study of parasite is called: [illegible]
   (A) Paleontology (B) Histology (C) Microbiology (D) Parasitology
10. The number and variety of species in a place is called: [illegible]
    (A) Population (B) Community (C) Biodiversity (D) Diversity
11. The muscles of stomach is of which type? [illegible]
    (A) Skeletal (B) Smooth (C) Cardiac (D) All above
12. Fungi, algae, protozoans and various prokaryotes are: [illegible]
    (A) 17.6% (B) 19.9% (C) 9.4% (D) 9.2%
13. The number of the species of insects is: [illegible]
    (A) 53.1% (B) 17.6% (C) 19.9% (D) 9.4%
14. The reasoning from the general to specific is: [illegible]
    (A) Deductive (B) Inductive (C) Scientific (D) Theoretical
15. The most recent era is: [illegible]
    (A) Proterozoic (B) Paleozoic (C) Cenozoic (D) Mesozoic
16. The branch of Biology which deals with the study of social behavior and communal life of human being is: [illegible]
    (A) Human biology (B) Molecular biology
    (C) Social biology (D) Environmental biology

NAFEES BUKHARI (DOCTORS HOUSE AHMAD)

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Q. What are the [illegible] mammals?

Ans. The mammals [illegible]

Q. Name [illegible] which lead to form a [illegible]

Ans. [illegible]

Q. What is significance of study of insects?

Ans. Significance of study of insects [illegible]

Q. Whenever did human [illegible] the human body [illegible]

Ans. [illegible]

Q. How will [illegible]

Ans. [illegible]

Q. [illegible] the age of [illegible]

Ans. [illegible]

Q. Define [illegible] examples.

Ans. Die Diseases [illegible]

Examples [illegible]

Q. What is deductive reasoning? Give one example

Ans. In deductive [illegible] drawn from a general [illegible]

Example [illegible] have wings and that sparrow is a bird [illegible] have wings.

Q. Define phylum [illegible] and [illegible]

Ans. Phylum [illegible]

Kingdom [illegible] plant animals and [illegible]

Q. Define deductive reasoning and inductive reasoning.

Ans. Deductive Reasoning [illegible]

Example [illegible]

[illegible]

[illegible]

[illegible]

Standard

ESSAY TYPE QUESTIONS

4 ♣ ♣ ♣ ♣

CHAPTER 2

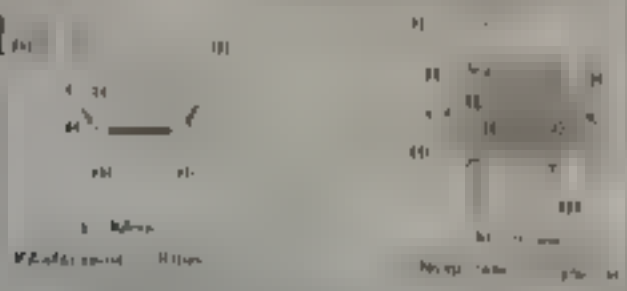
Biological Molecules

MULTIPLE CHOICE QUESTIONS (MCQ's)

[illegible]

SHORT ANSWER QUESTIONS

[illegible]



[illegible]

6. Ionic and covalent bonds are fundamental

Ans. Formation [illegible] Atomic Bonds [illegible]

[illegible]

7. [illegible]

Ans. [illegible]

[illegible]

10. Why is [illegible] double amount of energy as compared [illegible] of the reaction [illegible]

Ans. [illegible]

11. Define heat of vaporization. Why [illegible]

Ans. Heat of vaporization [illegible]

20. Differentiate between Heat of Humidity and Heat of Water Vapour [illegible]

Ans. Heat of vapour of Water [illegible]

Heat of Water Vapourization [illegible]

Assessment

[illegible]

ESSAY TYPE QUESTIONS

[illegible] importance of [illegible] in [illegible] of life.

[illegible] importance of [illegible]

[illegible] properties of [illegible]

[illegible] importance of water for [illegible]

Describe [illegible] and [illegible] structure of protein.

What functions are performed by proteins in the bodies of living organisms?

[illegible] according to [illegible] structure.

[illegible] functions of [illegible] in [illegible].

Describe fibrous and globular proteins.

Describe secondary and tertiary structure of protein.

Describe [illegible] of water by discussing its various properties.

✧ ✧ ✧ ✧

CHAPTER 05

Enzymes

MULTIPLE CHOICE QUESTIONS (MCQ's)

[illegible]

2 The [illegible] 12

3 [illegible] 13

4 [illegible] 14

5 [illegible] 15

6 [illegible] 16

7 [illegible] 17

8 [illegible] 18

9 [illegible] 19

10 [illegible] 20

11 [illegible] 21

12 [illegible] 22

13 [illegible] 23

14 [illegible] 24

15 [illegible] 25

16 [illegible] 26

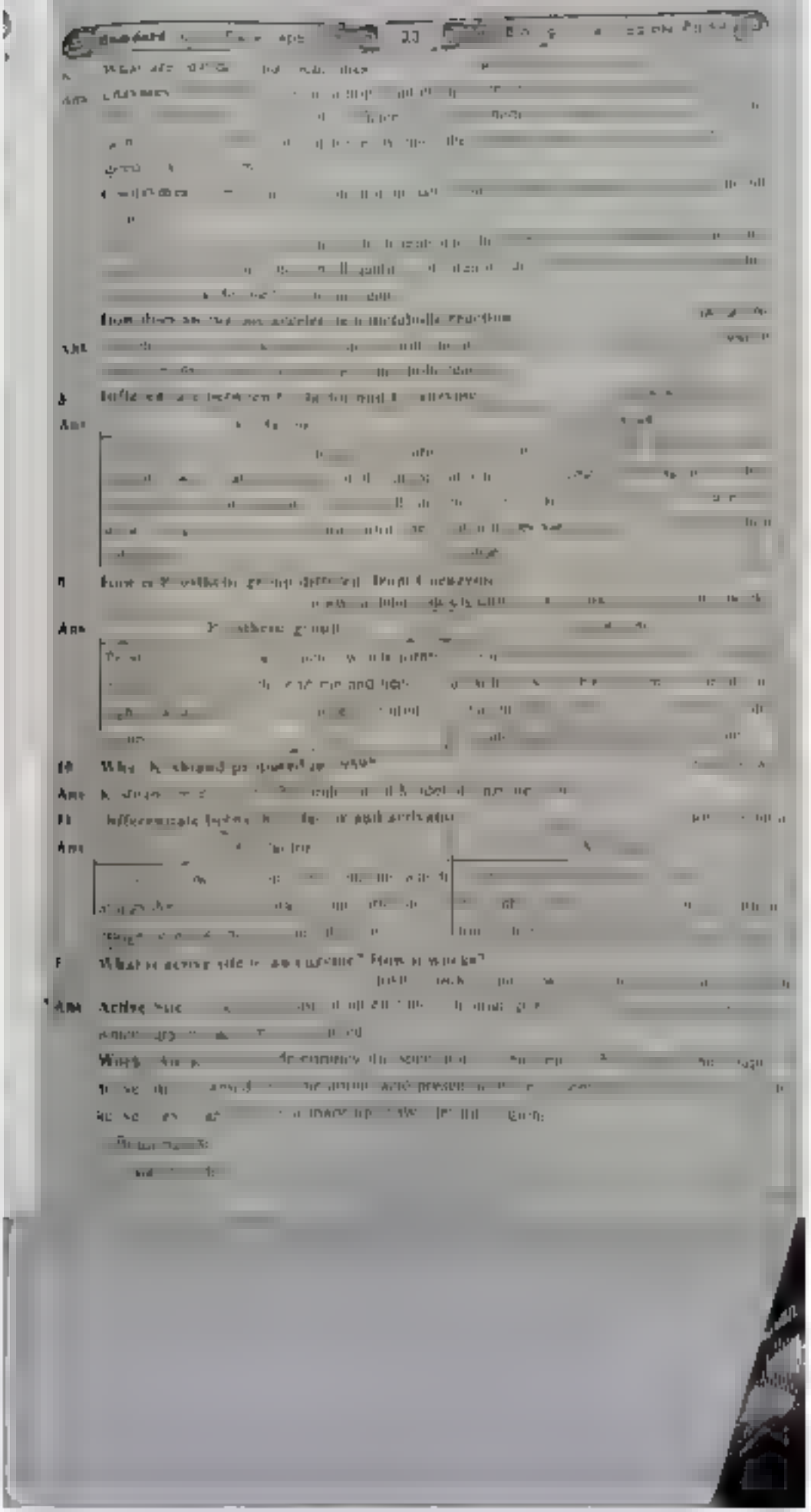
17 [illegible] 27

18 [illegible] 28

19 [illegible] 29

20 [illegible] 30

SHORT ANSWER QUESTIONS



[illegible]

[illegible]

Ans. [illegible]

[illegible]

Ans. **Characteristics of Enzymes**

[illegible]

Ans. **Enzymes in Everyday Life**

[illegible]

Define induced fit model of enzyme action

Ans. [illegible]

What enzymes are produced in the lactase form? Give example

Ans. [illegible]

Example: [illegible]

What is lock and key model? Who proposed this model?

Ans. [illegible]

[illegible]

Ans [illegible]

Mechanism of irreversible inhibitors [illegible] up the phosphate [illegible]

20. **What are enzyme inhibitors? Give their major types.**

Ans **Inhibitors** [illegible]

Examples [illegible]

Major types of inhibitors [illegible]

21. **Differentiate between reversible and irreversible enzyme inhibitors.**

Ans

Reversible Inhibitors	[illegible]
[illegible]	[illegible]

22. **What are competitive and non-competitive enzyme inhibitors.**

Ans **Competitive Inhibitors** [illegible]

Non-competitive inhibitors [illegible]

23. **Differentiate between substrate and active site of enzymes.**

Ans

Substrate	Active site
[illegible]	[illegible]

24. **What is induced fit model of enzyme action, when proposed.**

Ans **Induced fit Model** – **Enzyme Action** – [illegible] large [illegible]

5 [illegible]

Ans [illegible]

6 [illegible]

Ans [illegible]

7 [illegible]

Ans [illegible]

8 [illegible]

Ans [illegible]

9 [illegible]

Ans [illegible]

10 [illegible]

Ans [illegible]

11 [illegible]

Ans [illegible]

12 Define [illegible] Give 4 examples.

Ans [illegible]

ESSAY TYPE QUESTIONS

Q1. Explain [illegible]

Q2. [illegible]

Q3. Explain how [illegible]

Q4. Describe the [illegible] present in [illegible]

Q5. Describe [illegible]

CHAPTER 04

The Cell

MULTIPLE CHOICE QUESTIONS (MCQ'S)

1. [illegible]
2. The end products of glucose [illegible] during glycolysis is
3. Organelle found in both prokaryotic and eukaryotic cells
   - [illegible] Chloroplast
4. Organelle [illegible] endosymbiotic origin is
   - [illegible] Mitochondrion
5. The cells which transmit impulses are
   - [illegible] Nerve cell
6. The attachment of two sub units of ribosomes is controlled by
7. Ribosomes are particles of:
   - B. RNA & protein
   - D. Ribonucleoprotein
8. Haem portion of Haemoglobin contains an atom of:
   - A. [illegible] B. Iron C. Phosphorous D. Copper
9. The cells which secrete their hormones are:
10. Which of the one in the following is a prokaryote
    - C. Fungus D. Blue green [illegible]
11. Which is found in Primary wall?
    - B. Pectin C. Lignin
12. They impart colors other than green
    - B. Chromoplasts C. Chloroplast
13. In eukaryotic cell, Ribosomes are attached to
    - [illegible] endoplasmic reticulum
14. All are related to secondary cell wall, except:
15. Which statement about plastids is true?
    - They contain DNA [illegible]
16. In many animal cells, the cell membrane helps to take in material by infolding in the form of vacuoles called:
17. The soluble part of cytoplasm is called:
18. Plastids are present only in

8 [illegible]

20 Organelle [illegible] with cell secretion [illegible]

2 [illegible] Organelle [illegible] disappearing [illegible]

21 [illegible] Every inside the cell [illegible]

7 [illegible] containing [illegible]

The [illegible] which [illegible] the [illegible]

5 [illegible]

16 [illegible] process [illegible]

4 [illegible]

29 [illegible]

30 [illegible]

10 [illegible]

6 [illegible]

2 What [illegible] cell [illegible]

11 [illegible]

14 [illegible]

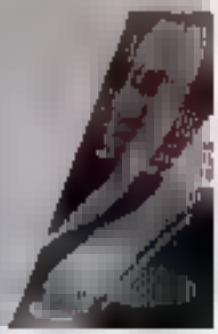
15 [illegible]

18 [illegible]

25 The [illegible]

18 [illegible]

19 [illegible]



SHORT ANSWER QUESTIONS

Q. Where are the new RNA molecules assembled?

Ans. [illegible]

Q. How cell wall of plants differ from prokaryotes?

Ans. [illegible]

Q. Describe structure and composition of bacterial cell wall.

Ans. Structure of Cell Wall [illegible]

Composition of Cell Wall

[illegible]

Q. What is cytokinesis?

Ans. Cell fractionation [illegible]

Q. Name important Kingdoms of Eukaryotes

Ans. Kingdoms of Eukaryotes

[illegible]

Q. What is differentiation? Describe it in nutshell.

Ans. [illegible]

[illegible]

Q. How Mendel defined the phenotype?

Ans. [illegible]

[illegible]	[illegible]
[illegible]	the
[illegible]	[illegible]
[illegible]	[illegible]

Q. Give role and characteristics of nucleolus

Ans. [illegible]

Role of Centrosome

[illegible]

Q. What are intermediate filaments?

Ans. **Intermediate filaments** [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Function of Nucleolus

[illegible]

Ans Golgi Apparatus [illegible]

Functions

[illegible]

10 **Differentiate between Prokaryotic and Eukaryotic cell** [illegible]

Ans

Prokaryotic cell	Eukaryotic cell
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

[illegible]

[illegible]

[illegible]

LONG TYPE QUESTIONS

Q.1 Write the structure and function of plasma membrane

Q.2 Describe the structure and function of plasma membrane

Q.3 Write a detailed note on endoplasmic Reticulum

Q.4 Write a note on Golgi bodies

Q.5 Describe the structure and function of Golgi Apparatus in a cell

Q.6 Write the similarities and differences of structure and functions of Mitochondria and [illegible]

Q.7 Describe the structure and functions of chloroplast

Q.8 What do plastids do? Explain structure and functions of chloroplast

Q.9 Differentiate between Prokaryotic and eukaryotic cells

Q.10 Write a note on Golgi Apparatus

Q.11 Define cell organelles. Explain its functions

Q.12 Discuss chloroplast in plants

Q.13 Write structure and functions of nucleus.

* * * *

CHAPTER 15

Variety of Life

MULTIPLE CHOICE QUESTIONS (MCQ'S)

[illegible]

[illegible]

[illegible]

[illegible]

44\. Which [illegible] disease?

[illegible]

[illegible] the stage called a prophage is termed as [illegible]

[illegible]

50\. Five kingdom [illegible] classification was proposed by [illegible]

[illegible] (D) [illegible]

51\. Paramyxo [illegible] cause the disease [illegible]

[illegible] (C) Mumps and measles [illegible]

52\. Infectious viruses are [illegible]

[illegible]

53\. Binomial system of Nomenclature was devised by [illegible]

[illegible]

54\. [illegible] hepatitis [illegible]

[illegible]

55\. About 25 minutes after [illegible] infection approximate number of new bacteriophages formed is [illegible]

[illegible]

4. Rapid [illegible]

5. [illegible]

SHORT ANSWER QUESTIONS

1. [illegible]

Ans. [illegible]

2. [illegible]

Ans. Species [illegible]

Example [illegible]

3. What are [illegible]?

Ans. [illegible]

4. [illegible]

Ans. Biological classification [illegible]

[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

5. What is binomial nomenclature? What are the rules of nomenclature?

Ans. **Binomial Nomenclature** [illegible]

Rules of Binomial Nomenclature [illegible]

1. [illegible]

Examples.

Common Names	Scientific Names
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

[illegible]

Ans [illegible]

[illegible]

Ans [illegible]

[illegible]

Ans [illegible]

[illegible]

Ans [illegible]

[illegible]

Ans [illegible]

[illegible]

Ans [illegible]

[illegible]

Ans [illegible]

[illegible]

Ans [illegible]

[illegible]

[illegible]	[illegible]
[illegible]	[illegible]

[illegible]

[illegible]

Ans. [illegible]

19. Write the names of two hepatitis.

Ans. Two hepatitis [illegible]

20. Differentiate between [illegible] and bubonic plague.

Ans.

[illegible] Plague	[illegible] Plague
[illegible]	[illegible]

21. What is adenovirus?

Ans. Adenovirus [illegible] in which [illegible]

22. Write the name of two viral diseases and their causative agents.

Ans.

Name of Viral Diseases	Causative Agents
[illegible]	[illegible]
[illegible]	[illegible]

23. Where is herpes simplex?

Ans. Herpes simplex [illegible] and at [illegible]

24. Write names of four common human viral diseases.

Ans. Four common human viral diseases:

[illegible] Influenza

Q. What [illegible]

Ans. It usage and [illegible]

Q. Draw labelled [illegible]

Ans.

Q. State the [illegible] in Biology

Ans. [illegible]

ESSAY TYPE QUESTIONS

Q1. [illegible] biological [illegible] in wild plant

Q2. Describe a [illegible] of Binomial nomenclature in detail

Q3. Discuss the five kingdom system of classification proposed by [illegible]

Q4. Write a note on structure of viruses

Q5. Describe [illegible] of Wall ecosystem (labelled diagrams)

Q6. Sketch the [illegible] of [illegible]

Q7. Explain structure of bacteriophage

Q8. Give some viral diseases which are prevalent in Pakistan

Q9. Write a note on Acquired Immune Deficiency Syndrome (AIDS)

Q10. What is Hepatitis? Enlist the complications and discuss its different [illegible]

Q11. Write a note on small pox and polio

Q12. Explain the cycle of virus in bacteria

Q13. Describe [illegible] in bacteriophage

Q14. Define virus. Write a note on the characteristics of viruses

✧✧✧✧

CHAPTER 10

Kingdom Prokaryotae (Monera)

MULTIPLE CHOICE QUESTIONS (MCQ's)

1 [illegible]

(a) [illegible] (b) [illegible]

(c) [illegible] (d) [illegible]

2 [illegible]

(a) [illegible] (b) [illegible]

(c) [illegible] (d) [illegible]

3 [illegible]

(a) [illegible] (b) [illegible]

(c) [illegible] (d) [illegible]

4 [illegible]

(a) [illegible] (b) [illegible]

(c) [illegible] (d) [illegible]

5 [illegible]

(a) [illegible] (b) [illegible]

(c) [illegible] (d) [illegible]

6 [illegible]

(a) [illegible] (b) [illegible]

(c) [illegible] (d) [illegible]

7 [illegible]

(a) [illegible] (b) [illegible]

(c) [illegible] (d) [illegible]

8 [illegible]

(a) [illegible] (b) [illegible]

(c) [illegible] (d) [illegible]

9 [illegible]

(a) [illegible] (b) [illegible]

(c) [illegible] (d) [illegible]

10 [illegible]

(a) [illegible] (b) [illegible]

(c) [illegible] (d) [illegible]

11 [illegible]

(a) [illegible] (b) [illegible]

(c) [illegible] (d) [illegible]

12 [illegible]

(a) [illegible] (b) [illegible]

(c) [illegible] (d) [illegible]

13 [illegible]

(a) [illegible] (b) [illegible]

(c) [illegible] (d) [illegible]

14 [illegible]

(a) [illegible] (b) [illegible]

(c) [illegible] (d) [illegible]

15 [illegible]

(a) [illegible] (b) [illegible]

(c) [illegible] (d) [illegible]

16 [illegible]

(a) [illegible] (b) [illegible]

(c) [illegible] (d) [illegible]

17 [illegible]

(a) [illegible] (b) [illegible]

(c) [illegible] (d) [illegible]

SHORT ANSWER QUESTIONS

Q. Differentiate between hydrarchous and amphirchous.

Ans.

7. What are [illegible]

Ans. [illegible]

8. What do you [illegible] Bacteriophage?

Ans. **Bacteriophage**

[illegible]

9. How plants [illegible] green pigments

Ans. [illegible]

10. Differentiate between [illegible]

Ans. [illegible]

11. Name three cell [illegible]

Ans. **Shapes of Bacteria** [illegible]

Spiral Bacteria [illegible]

[illegible]

II. Spirillum [illegible]

III. Spirochete [illegible]

12. What are pili? [illegible]

Ans. [illegible]

Functions of Pili

[illegible]

13. Differentiate between [illegible]

Ans.

[illegible]	[illegible]
[illegible]	[illegible]

14. Discuss F-coli genome.

Ans. **F-coli Genome** [illegible]

Q. What are plasmids and what is their role in genetic engineering?

Ans. [illegible]

Q. Name four phases of bacterial growth.

Ans. [illegible]

Q. What are plasmids? Give their significance.

Ans. Plasmids [illegible] cell chromosome. DNA [illegible] and are used in genetic engineering [illegible]

Significance

Plasmids [illegible] problem genetic engineering [illegible] drug resistance, heavy metals [illegible]

Q. Write physical methods to control bacteria.

Ans. Physical methods [illegible] bacteria. Following are some physical methods [illegible] bacteria.

i. **Sterilization** [illegible]

ii. **High temperature** [illegible]

iii. **Radiation** [illegible]

iv. **Membrane filters** [illegible] filters.

Q. What are mycoplasmas? Write two roles.

Ans. **Mycoplasmas** [illegible] bacteria [illegible] mycoplasmas. Mycoplasmas are in the form of [illegible] shapes [illegible]

Functions of mycoplasmas

- Mycoplasmas are [illegible] DNA [illegible]
- Mycoplasmas are [illegible]
- Some mycoplasmas are [illegible] exception of [illegible]
- Receptors [illegible] are present in the mycoplasmas

Ans

Ans

Ans

Ans

Examples

[illegible]

BRIEF TYPE QUESTIONS

1. Describe differences between Gram positive and Gram negative bacteria on the basis of cell wall
2. Discuss about bacterial cell wall
3. Write a note on the cell envelope of bacteria
4. Write a note on the process of Nutrition in Bacteria.
5. Write a note on growth and reproduction in bacteria
6. Describe different physical and chemical methods to control bacteria
7. Write a note on use and misuse of antibiotics
8. Write a note on Cyanobacteria
9. Describe physical methods to control microorganisms
10. Write a note on respiration and growth in bacteria
11. Describe different shapes of bacteria

✧✧✧✧

CHAPTER 07

The Kingdom Protista (or Protoctista)

MULTIPLE CHOICE QUESTIONS (MCQ's)

1 A [illegible] that forms spores at some stage in life belongs [illegible]

A [illegible] B Flagellate C [illegible] D [illegible]

2 Which are the [illegible] organisms in aquatic ecosystem [illegible]

A [illegible] B [illegible] C [illegible] D [illegible]

3 Which of the following is not present in protists [illegible]

A [illegible] B [illegible] C [illegible] D [illegible]

4 Algae in which body is differentiated into holdfast, stipes and blades belong to [illegible]

A [illegible] B [illegible] C [illegible] D [illegible]

5 The closest relatives of fungi are probably [illegible]

A [illegible] B [illegible] C Slime molds D [illegible]

6 Cryptomonas is an example of [illegible]

A [illegible] B [illegible] C [illegible] D [illegible]

7 Protozoans belong to a phylum of mostly [illegible]

A [illegible] B [illegible] C [illegible] D [illegible]

8 Dinoflagellates, diatoms, foraminifera are one of the most important groups of [illegible]

A [illegible] B [illegible]

C [illegible] D [illegible]

9 Amoeba [illegible]

A [illegible] B [illegible]

C [illegible] D Plasmodium

10 African sleeping sickness is transmitted by [illegible]

A [illegible] B [illegible] C [illegible] D [illegible]

11 The phylum which is exclusively marine is [illegible]

A [illegible] B [illegible] C [illegible] D [illegible]

12 Euglena is included in Kingdom [illegible]

A [illegible] B [illegible] C Fungi D [illegible]

13 Which one belongs to Actinopodia? [illegible]

A [illegible] B [illegible] C [illegible] D [illegible]

14 Amoeba moves by forming specialized cytoplasmic projection called [illegible]

A [illegible] B pseudopodia C [illegible] D [illegible]

15 Fresh water sponge is [illegible]

A [illegible] B [illegible] C Spongilla D [illegible]

16 Laminaria is an example of [illegible]

A [illegible] B [illegible] C Green algae D Brown algae

17 Paramecium Paramecium is commonly called [illegible]

A [illegible] B [illegible] C [illegible] D [illegible]

SHORT ANSWER QUESTIONS

[illegible] Kingdom protista

Ans [illegible] Kingdom Protista

[illegible]

[illegible] Kingdom protista [illegible] plantlike group of [illegible]

Ans [illegible]

[illegible]

Ans [illegible]

[illegible] Plasmodium causing disease

Ans [illegible]

[illegible]

[illegible]

[illegible]

4. Name six groups of animal like protists.

Ans Six groups of animal like protists

[illegible] Ciliophora [illegible]

[illegible] Apicomplexans [illegible]

5. Write down two similarities and differences between fungi and fungus like protists.

Ans [illegible]

(a) Similarities between fungi and fungus like protists

[illegible] resemble fungi in that

[illegible] thread like structures called hyphae

(b) Differences between fungi and fungus like protists

[illegible] not only for sexual reasons

[illegible] which [illegible] not found in fungi

[illegible] is a major component of their cell walls, whereas [illegible]

6. What do you know about euglena?

Ans Euglena [illegible] its own flagellum and there is [illegible] called pseudo-podia. Euglenoids are [illegible]

[illegible] euglenoids

8. [illegible]

Ans. [illegible]

9. [illegible]

Ans. Benefits of Algae

[illegible]

Benefits of Fungi

[illegible]

10. What are haustorium [illegible]

Ans. [illegible]

11. [illegible]

Ans. [illegible]

12. [illegible]

Ans. Examples of [illegible]

1. Who is Trypanosoma? What disease does it cause?

Ans. Trypanosoma [illegible]

4. What is the function of pellicle in ciliate?

Ans. Function of Pellicle [illegible]

5. Differentiate between micronucleus and macronucleus in ciliates.

Ans.

Micronucleus	Macronucleus
[illegible]	[illegible]
[illegible] number	[illegible] number
[illegible]	Macronucleus [illegible]

Numerical [illegible]

Ans [illegible]

18 Who discovered pollen-pistil mix for the hand pollination of all 8 plant species [illegible]

Ans [illegible]

19 What is the role of algae in fresh water colonies?

Ans [illegible]

20 Name four phyla of Algae

Ans Phyla of Algae [illegible]

21 How Algae differ from plants?

Ans

Algae	Plants
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

22 Why green algae are considered as ancestors of green land plants?

Ans [illegible]

23 What are reasons for migration out of ocean?

Ans [illegible]

24 What are pigments found in Algae?

Ans Pigments [illegible]

[illegible]

Ans. [illegible]

[illegible]

Ans. [illegible]

[illegible]

Example: [illegible]

Q. What are keeper [illegible] of a [illegible]

Ans. [illegible]

Example [illegible]

Q. Write down the [illegible] figure, pigmentation and [illegible]

Ans. [illegible]

Example: [illegible]

Q. Give two examples of [illegible] [illegible]

Ans. [illegible]

Q. Give at least four [illegible] [illegible]

Ans. [illegible]

Q. [illegible] the characters of [illegible]

Ans. Characters of [illegible]

[illegible]

Q. Why [illegible] [illegible]?

Ans. [illegible]

Q. How protists are different from other [illegible]?

Ans. Protists are [illegible] because [illegible]

Ans. [illegible]

40. Differentiate between Paramoecium and Euglena.

Ans.

Paramoecium	Euglena
[illegible]	[illegible]
[illegible]	[illegible]
Example [illegible]	**Example** [illegible]

What does [illegible] mean?

Ans. [illegible]

41. Differentiate between multiflagellates and uniflagellates.

Ans. **Differences between multiflagellates and uniflagellates**

Multiflagellates	Uniflagellates
[illegible]	[illegible]
[illegible]	[illegible]

42. Why euglena is difficult to classify?

Ans. [illegible] that plant and [illegible] Euglena. That's why it is difficult to classify.

43. What are the basis of diversity in protista?

Ans. **Protista** [illegible] in the kingdom protista have various diversity in their [illegible] structural [illegible] ways of obtaining nutrition [illegible] reproduction [illegible] most a group.

44. Give an example of water moulds, why it is notorious?

Ans. **Example** [illegible] is an example of water mould [illegible] cellulose [illegible] are aseptate [illegible] a large number [illegible] plant [illegible] have proved a [illegible]

4. [illegible]

Ans. Stromatolites [illegible] a planktonic spirulina [illegible]

4. What are diatoms?

Ans. Diatoms [illegible]

44. Name the unicellular flagellate that lives as symbiont and other as parasite causing illness.

Ans. Unicellular [illegible]

45. [illegible] examples of red algae and green algae.

Ans. Examples of red algae: [illegible]

Examples of green algae: [illegible]

46. What is the [illegible] infusions.

Ans. Infusions: [illegible]

47. Give habitat of algae.

Ans. Habitat of algae: [illegible]

48. What are coral reefs.

Ans. Coral Reefs: [illegible]

1. [illegible]
2. [illegible]
3. [illegible]

49. Give features of pelomyxa palustris.

Ans. Pelomyxa palustris: [illegible]

ESSAY TYPE QUESTIONS

All long answer questions have been taken from this chapter.

CHAPTER 18

Fungi (The Kingdom of Recyclers)

MULTIPLE CHOICE QUESTIONS (MCQ's)

1. Which [illegible] component of fungal cell wall [illegible]
   A. [illegible] B. [illegible] C. [illegible] D. [illegible]
2. [illegible]
   A. [illegible] B. [illegible] C. [illegible] D. [illegible]
3. A single [illegible] of new hyphae is [illegible]
   A. [illegible] B. [illegible] C. [illegible] D. [illegible]
4. [illegible] fungus is
   A. [illegible] B. [illegible] C. [illegible] D. [illegible]
5. [illegible] indicator of air pollution are
   A. [illegible] B. [illegible] C. [illegible] D. [illegible]
6. [illegible]
   A. [illegible] B. [illegible] C. [illegible] D. [illegible]
7. [illegible] directly [illegible] the living host cytoplasm is
   A. [illegible] B. [illegible] C. [illegible] D. [illegible]
8. Fungi can tolerate wide range of [illegible]
   A. [illegible] B. [illegible] C. [illegible] D. [illegible]
9. The imperfect fungi are also called
   A. [illegible] B. [illegible] C. [illegible] D. [illegible]
10. Fungi are heterotrophs that lack cellulose in their cell wall and contain [illegible] found in exoskeleton of arthropods.
    A. [illegible] B. [illegible] C. Pectin D. [illegible]
11. The fungi which absorb their food from organic matter are called
    A. [illegible] B. [illegible] C. [illegible] D. [illegible]
12. Which is absent in fungi
    A. [illegible] B. [illegible] C. [illegible] D. [illegible]
13. The closest relatives of fungi are probably
    A. [illegible] B. [illegible] C. [illegible] D. [illegible]
14. In fungi spores are produced inside the reproductive structure called
    A. [illegible] B. [illegible] C. [illegible] D. [illegible]
15. The principal decomposers of cellulose and lignin are
    A. [illegible] B. [illegible] C. Fungi D. Protozoans
16. Despite absence of sexual reproduction, imperfect fungi show [illegible] reproduction called as
    A. [illegible] B. [illegible] C. Conjugation D. [illegible]
17. Unicellular yeasts reproduce by
    A. Spores B. [illegible] C. Budding D. Fragmentation

[illegible]

[illegible]

[illegible]

38. [illegible] is used in the following dough
[illegible]

39. Which one of the following fungus is non-edible
[illegible]

40. Premature mushrooms are called
[illegible]

41. Blue cheese is the example of Penicillium species
[illegible]

42. Which is used to give flavor, aroma and characteristic colour to the cheese?
[illegible]

43. First discovered antibiotic is
[illegible]

44. The number of edible mushroom species are about
[illegible]

45. Citric acid is obtained from
[illegible]

46. The disease caused by a fungus is
[illegible]

47. Which of the following is not a species of Lycopodium?
[illegible]

48. Potential fungi directly absorb nutrients from living host by
[illegible]

49. All fungal nuclei are haploid except for transient diploid
[illegible]

50. Chlamydospores caused by spores of fungus is a serious infection of
[illegible]

51. The cell wall of fungus contains
[illegible]

52. Reindeer moss used as food for reindeer is
[illegible]

53. pH of fresh saliva is nearly
[illegible]

54. Cell wall of many fungi contains mostly
[illegible]

55. Rhizopus belongs to class
[illegible]

56. pH of fungal spores consists of
[illegible]

57. Candida albicans is a
[illegible]

58. Some fungi are used to remove environmental pollution, the process is called
[illegible]

SHORT ANSWER QUESTIONS

1. [illegible]

Ans. [illegible]

[illegible]

2. [illegible]

Ans. [illegible]

3. [illegible]

Ans. [illegible]

4. [illegible]

Ans. [illegible]

5. [illegible]

Ans. [illegible]

6. [illegible]

Ans. [illegible]

7. [illegible]

Ans.

[illegible]	[illegible]
[illegible]	[illegible]

8. [illegible]

Ans. [illegible]

9. [illegible]

Ans. [illegible]

10. [illegible]

Ans. [illegible]

Role of fungi and algae in lichen: unique partners in [illegible]

[illegible]

B. Ecological importance of lichen.

[illegible]

11 What is mycorrhiza? Give its types.

[illegible]

Ans Mycorrhiza: [illegible]

Types: There are two main types of mycorrhizae

I. Ectomycorrhizae II. Endomycorrhizae

Importance of Mycorrhizae for plants: The fungal hyphae increase the [illegible]

[illegible]

12 Define plasmogamy.

Ans Plasmogamy: [illegible] is known as plasmogamy. When fungi [illegible]

[illegible]

13 Define endomycorrhizae and ectomycorrhizae.

[illegible]

Ans Endomycorrhizae and ectomycorrhizae are two major types [illegible]

I. **Endomycorrhizae:** [illegible] in which the fungal hyphae [illegible] penetrate the cell membrane [illegible] known as endomycorrhizae.

II. **Ectomycorrhizae:** [illegible] in which the fungal hyphae [illegible] between the cells but do not penetrate the [illegible] the host plant. External soil [illegible] surrounding [illegible] ectomycorrhizae.

14 What are carnivorous fungi? Give one example.

Ans Carnivorous fungi: [illegible] are not very predacious. They [illegible] parasites the nematodes penetrate them, and absorb their nutritional contents [illegible] fungi in nitrogen requirement. It fulfils its glucose requirements by breaking [illegible]

Example: [illegible] (Pleurotus ostreatus)

15 Give features of zygomycota.

Ans. Features of zygomycota:

- During their sexual reproduction zygote formed directly by the fusion of hyphae
- Zygote forms temporary dormant thick walled resistant structure called zygospore hence the name zygomycetes
- Meiosis takes place when zygospore germinates and haploid spores are produced
- Spores on germination produce new mycelium. Asexual reproduction is common
- Rhizoids are [illegible]
- Rhizopus [illegible] growing on and spoiling moist bread, fruits etc

[illegible]

[illegible]	[illegible]
[illegible]	[illegible]

[illegible] Why are [illegible]

Ans. [illegible]

[illegible] Why are [illegible] called [illegible]

Ans. [illegible]

[illegible] Differentiate between [illegible] and [illegible]

Ans.

[illegible]	[illegible]
[illegible]	[illegible]

[illegible] Why are [illegible] called death angel?

Ans. [illegible]

[illegible] Name and explain one [illegible] association

Ans. [illegible]

Give blocking diffusion fragmentation

Ans

23 **What are dikaryotic hyphae?**

Ans **Dikaryotic hyphae** [illegible] hyphae having two nuclei per [illegible] hosts.

24 **Name some edible fungi**

Ans. **Names of edible fungi**

25 **How spore differ from conidia**

Ans

Spores	Conidia
[illegible]	[illegible]

26 **Compare Ascomycetes with Basidiomycetes**

Ans

Ascomycetes	Basidiomycetes
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	basidiospores are produced [illegible]
[illegible]	basidiospores are [illegible]

27 **Who are some fungi called as predators?**

Ans **Fungi as predators** Some fungi [illegible] examination under the microscope are [illegible] because the [illegible] the animals such as nematodes paralyse them and penetrate [illegible] they absorb their nutritive contents primarily or fully. They nitrogen requirements

28 **Name the type of hyphe and sexual spore in asc fungi.**

Ans. **Type of hyphe in asc fungi:** Asc fungi have septate hyphe with [illegible]

Type of Sexual spores in asc fungi: Asc fungi produce Ascospores [illegible]

[illegible] Write down the [illegible] production of [illegible] name.

Ans. **Sexual Reproduction** [illegible]

10 What do you mean by budding and parthenogenesis?

Ans. **Parthenogenesis** [illegible]

Budding [illegible]

11 Sketch [illegible]

Ans. [illegible]

12 Give [illegible]

Ans. **Reproduction in Penicillium** [illegible]

13 Give the importance of black bread mold in food industry and genetics.

Ans. **Importance of Black Bread Mold**

[illegible]

14. What are food spoilt [illegible]

Ans. **Food Spoils** [illegible]

Examples [illegible]

15 Write down importance of yeast.

Ans. **Importance of Yeast**

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Q. [illegible] Name the diseases caused by fungi.

Ans. [illegible]

Q. [illegible] Name the diseases caused by fungi.

Ans. Plants fungal diseases

[illegible]

Animals fungal diseases

[illegible]

Q. [illegible]

Ans. [illegible]

Q. What is Ringworm?

Ans. Ringworm [illegible]

Q. [illegible] soil by algae.

Ans.

[illegible]	Hyphae
[illegible]	[illegible]

Q. Difference between [illegible] and conidiophore.

Ans.

Hyphae	Conidiophore
[illegible]	[illegible]

Q. Difference between sporangia and conidia.

Ans.

Sporangia	Conidia
[illegible]	[illegible]

Q. To which phylum [illegible] belong. How do they differ from other fungi?

Ans. [illegible] fungi, derived from all the three [illegible] group [illegible] and producing mainly [illegible] by budding. [illegible] and [illegible] of hyphae [illegible] carbon dioxide. They are non-[illegible]

Q. Why slime moulds are included in kingdom protoctista?

Ans. [illegible] protoctista because they are placed in a kingdom because some [illegible] characteristics while some other [illegible]

[illegible]

45. What are rust and smut diseases of plants?

Ans. Rust and Smut Disease: [illegible] called as because [illegible] dried [illegible] water [illegible] black [illegible] Smut [illegible] their black [illegible] [illegible]

46. Write the scientific name of yeast

Ans. [illegible]

47. What is radula?

Ans. Radula: [illegible] the [illegible] the [illegible] rows [illegible] teeth [illegible]

48. Define dikaryotic phase with examples

Ans. Dikaryotic Phase: A fungal hyphae having [illegible] called [illegible] hyphae which [illegible] further [illegible]

Example: [illegible]

49. What is hyphae? How coenocytic hyphae are advantageous?

Ans. Hyphae: The [illegible] called mycelium [illegible] thread like [illegible] called hyphae. Singular hypha.

Advantage: [illegible] through [illegible]

50. How composition of fungus cell wall is advantageous to fungi?

Ans. Composition: Fungi [illegible] wall [illegible] cell is more constant than cellulose due to which it can degrade the other walls.

51. Define mycorrhizae. What is its effect on its partner?

Ans. Mycorrhizae: [illegible] are mutualistic association between certain fungi and [illegible] vascular plants. [illegible] all kinds of vascular plants.

The fungal hyphae increase the amount of [illegible] and great surface area for absorption and help in the [illegible] absorption of phosphorus, zinc, copper and other nutrients from the soil [illegible] the roots. Such plants show better growth than those without this association.

52. What are zygomycetes? Why they are named so?

Ans. Zygomycetes: During their sexual reproduction, zygote formed directly by the fusion of hyphae forms temporary dormant thick walled resistant structure called zygospore hence the name zygomycetes.

53. Why fungus like protists are not fungi?

Ans. Fungus like protists are not fungi for several reason. Many of these protist have centrioles and produce cellulose as a major component of their cell walls, while true fungi lack centrioles and have cell walls of chitin.

SHORT TYPE QUESTIONS

[illegible] of fungi

[illegible] the different modes of nutrition in fungi

What do you know about mycorrhiza interaction in fungi

[illegible] detailed note on mycorrhizae

[illegible] fungi with role in food and medicines

How asexual reproduction occurs in fungi

Discuss different methods of sexual reproduction in fungi

Describe and draw life cycle of Rhizopus

[illegible] of Ascomycetes

Basidiomycetes has dikaryotic [illegible]

The disease cycle of rust of wheat caused by Puccinia graminis (Stem Rust of Wheat)

Write a note on economic gains due to fungi

[illegible] losses due to fungi

[illegible] associations of fungi

[illegible] has changed from that of a group of plant kingdom to a separate kingdom "Fungi"

What are different methods of asexual reproduction in fungi?

The role of fungi in different ways in which fungi are useful to human

✧✧✧✧

CHAPTER 09

Kingdom Plantae

MULTIPLE CHOICE QUESTIONS (MCQ's)

[illegible]

[illegible]

[illegible]

[illegible]

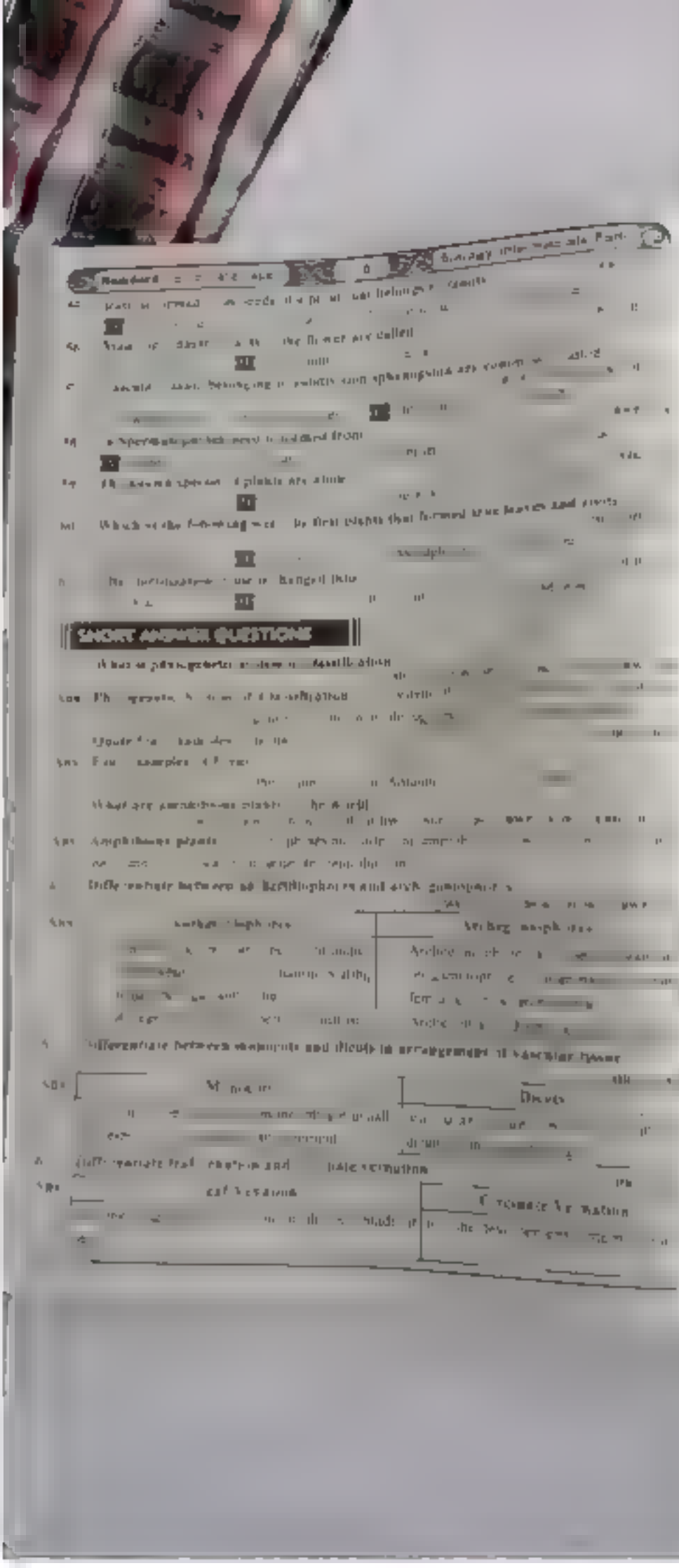
[illegible]

8. Which one belongs to Bryophyta
   [illegible] Anthocerotae
   [illegible] Pteridophyta
9. [illegible] plants are said to be amphibians of plants.
   [illegible] Hepaticae
   [illegible] Bryophyta
10. Bryophytes are generally thought to have evolved from
   [illegible] green algae
   [illegible] red algae
11. The members of all the divisions are
   [illegible] heterotrophs
   [illegible] heterotrophs
12. The system of classification which reflects the natural relationships among living organisms and their mode of origin is
   [illegible] Artificial
   [illegible] Natural
13. The sporophyte of bryophytes is
   [illegible] haploid
   [illegible] diploid
   [illegible] Triploid
14. Which one is an example of non-vascular plants?
   [illegible] Aquatic plants
   [illegible] Marchantia
15. Star bonsai is an example of
   [illegible] Sphagnum
   [illegible] Hepatic plants
   [illegible] Anthoceros plants
16. Flowering plants belong to the class
   [illegible] Angiospermae
   [illegible] Gymnospermae
   [illegible] Monocotyledonae
17. Mosses are
   [illegible] Spermatophyta
   [illegible] Bryophyta
   [illegible] Pteridophyta
   [illegible] Thallophyta
18. Mature sporophyte in liverwort
   [illegible] Sporophyte
   [illegible] Sporophyte
   [illegible] Sporophyte
   [illegible] Sporophyte
19. A haploid spermatozoid fuses with haploid egg to produce diploid
   [illegible] Zygote
   [illegible] Sporophyte
   [illegible] Spore
   [illegible] Gamete
20. Bryophyta is further subdivided into.
   [illegible] Subdivisions
   [illegible] Subdivisions
   [illegible] Subdivisions
   [illegible] Subdivisions
21. The plants that have no vascular or any sort gametophyte dominant. Male organs attached to gametophytes are known as:
   [illegible] Archegonia
   [illegible] Antheridia
   [illegible] Gametophyte
   [illegible] Sporophyte
22. The part of flower which develops into fruit is
   [illegible] Stem
   [illegible] Flower
   [illegible] Ovary wall
   [illegible] Ovule wall
23. The megasporophylls bearing ovules are not folded and joined at the margins to form an ovary
   [illegible] Linear
   [illegible] Monocotyledonae
   [illegible] Dicotyledonae
   [illegible] Gymnospermae
24. In Anthoceros a sporophyte at the junction of foot and spore producing region there is a band of
   [illegible] Periphysis
   [illegible] Meristematic tissue
   [illegible] Phloem
   [illegible] Pores
25. The reproductive organ of sporophyte is:
   [illegible] Sporangium
   [illegible] Antheridium
   [illegible] Archegonium

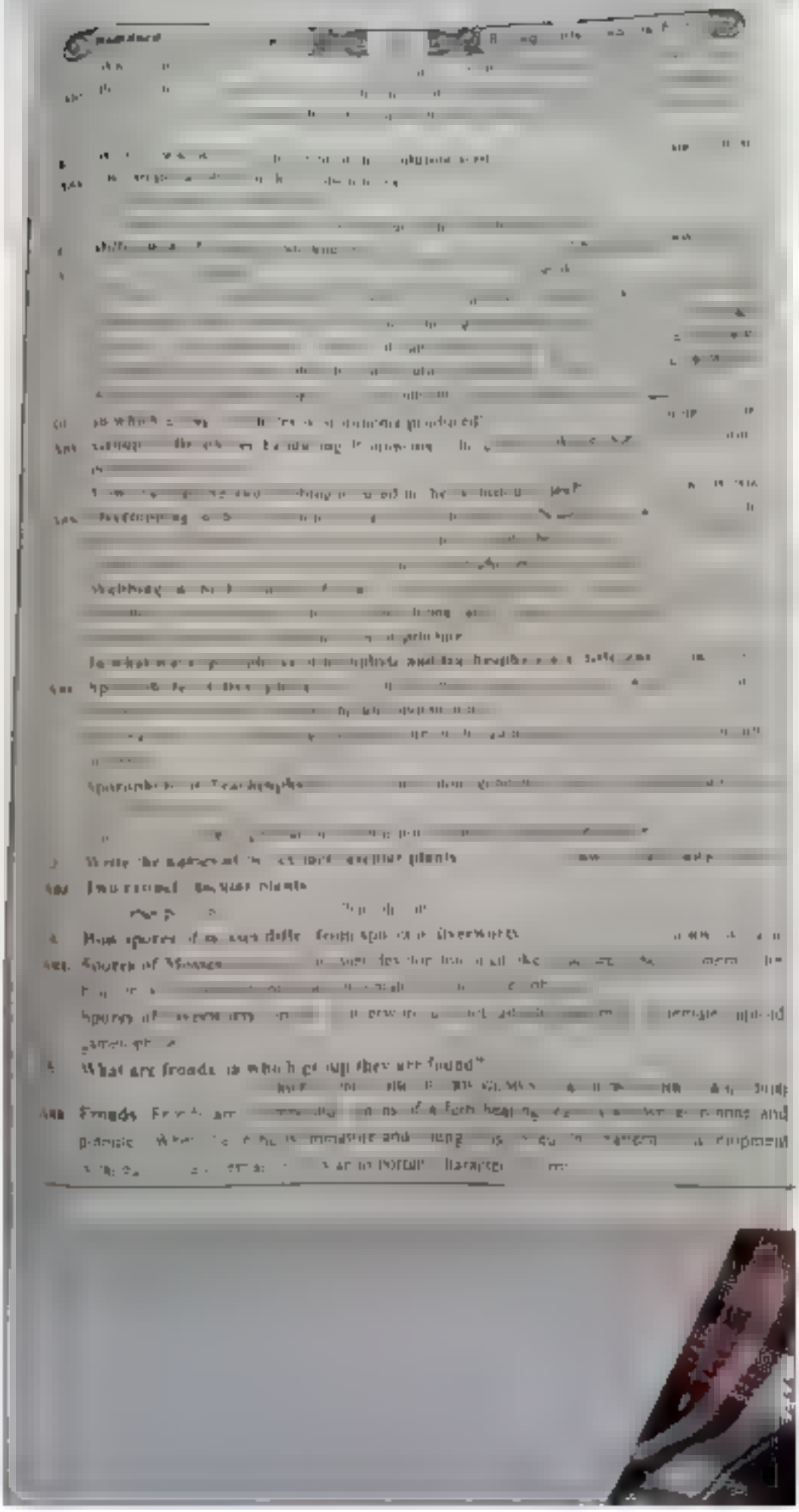
[illegible]

[illegible]

[illegible]



SHORT ANSWER QUESTIONS



[illegible]

What is prothallus

Ans Prothallus [illegible] gametophyte [illegible] [illegible]

[illegible] lower surface [illegible]

8 **What is Rhizome**

Ans Rhizome [illegible] present plant [illegible]

9 **What is the earliest group of [illegible] plants**

Ans [illegible] the earliest [illegible]

10 **Differentiate between [illegible] and [illegible]**

Ans [illegible]

Differentiate between Bryophytes and Tracheophytes

Ans

Bryophytes	Tracheophytes
[illegible]	[illegible]

22 **What is planation in leaf evolution**

Ans **Planation in leaf Evolution:** Branching in same plane [illegible] megaphyll [illegible] one plane

23. **Differentiate between microphylls and megaphylls**

Ans

Microphylls	Megaphylls
[illegible]	Megaphylls [illegible] divided veins and [illegible] expanded leaf blade or lamina
Microphylls are present in lycopsids	Megaphylls are present in other [illegible] plants

What is the importance of Hemicellulose?

Ans. [illegible]

What is dwarf spring?

Ans. [illegible]

Define cuticle and cuticle wax.

Ans. [illegible]

Define seed and fruit.

Ans. **Seed** [illegible]

Fruit [illegible]

Differentiate between homosporous and heterosporous.

Ans.

Homosporous	Heterosporous
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
Example [illegible]	**Example** [illegible]

Give four examples of gymnosperms given in your book.

Ans. **Examples of Gymnosperms**

a. Cycas — Sago palm
b. Pinus — Pine
c. Cedrus — Deodar
d. Picea — Spruce

What are gymnosperms? Give examples.

Ans. **Gymnosperms:** The term gymnosperm literally means "naked seed". The gymnosperms are heterosporous plant which produce seeds but no fruit. The ovules in these plants are usually borne on the exposed surfaces of megasporophylls. Gymnosperms have independent sporophyte but less conspicuous, dependent gametophyte.

Examples: [illegible] and pinkgo etc.

[illegible] Male [illegible] Female [illegible] of Pistil

Ans: Male [illegible] Female [illegible]

[illegible]

Male the structure of female gametophyte of an angiosperm.

Ans: Structure of female gametophyte of an Angiosperm

[illegible]

[illegible] Angiosperm

Ans: [illegible]

[illegible] Flowers. What are [illegible] of flower?

Ans: Flowers [illegible]

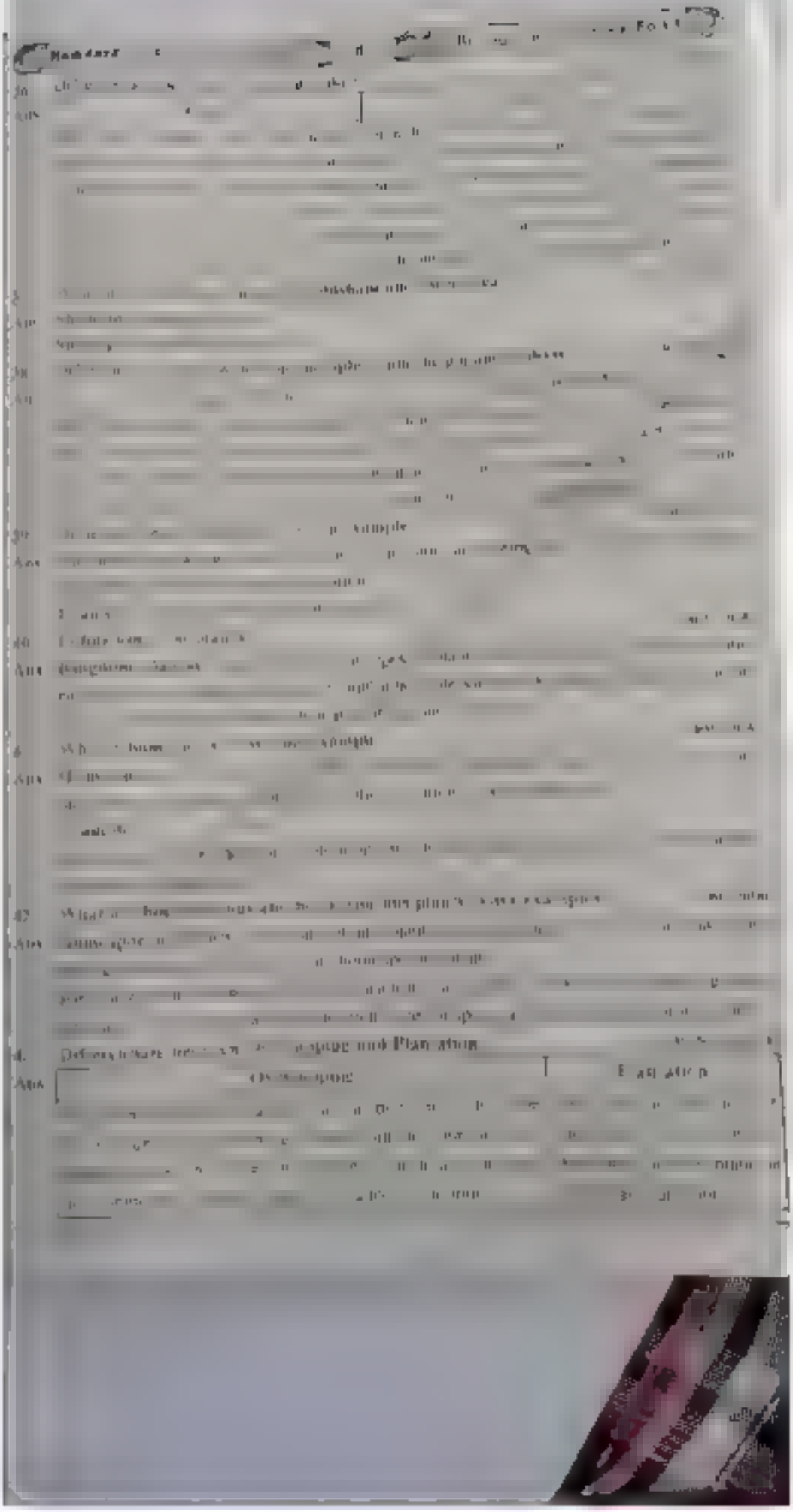
[illegible] Flowers [illegible]

[illegible] of parts of flower [illegible]

Define double fertilization

Ans: Double Fertilization [illegible] in the ovules of angiosperms [illegible]

Importance of Double Fertilization in Food Storage: The [illegible] food storage [illegible] in which food storage in [illegible] This actually helps the plant [illegible]



44. Write four characteristics of Hemichordata.

Ans. Four characteristics of Hemichordata are

1. Animal and Plants [illegible]
2. Adaptation and habitat [illegible]
3. [illegible]
4. [illegible]

45. [illegible]

Ans. [illegible]

46. Which phase of [illegible]

Ans. [illegible]

47. Why [illegible]

Ans. [illegible]

48. What are [illegible]

Ans. [illegible]

49. [illegible]

Ans. Amphistomophoran and Aspidogastrea

[illegible]

50. Why is [illegible] green algae?

Ans. Reason [illegible]

51. Define double fertilization in Angiosperm?

Ans. **Double fertilization** [illegible]

LONG TYPE QUESTIONS

Q. 1. Describe the general characteristics of adaptations.

Q. 2. Describe in detail [illegible] of leaf.

Q. 3. What is the [illegible] of megaphyll leaf.

Q. 4. Discuss [illegible] from steps leading to the evolution of seed habit.

Q. 5. List the steps involved in evolution of seed. Describe [illegible] of seed.

Q. 6. Give the list of various steps involved in the evolution of flower.

Q. 7. Describe the life [illegible] of an angiosperm plant.

Q. 8. Differentiate between [illegible] and [illegible].

Q. 9. Describe [illegible] of adaptations.

Q. 10. Define and explain [illegible] in a typical fern [illegible] of angiosperms. How angiosperms differ from gymnosperms.

Q. 11. Differentiate between microphylls and megaphylls and describe evolution of megaphyll from leaf.

Q. 12. Write down characteristics of class gymnospermae.

Q. 13. Discuss life cycle of Maiden hair fern.

✧✧✧✧

CHAPTER 10

Kingdom Animalia

MULTIPLE CHOICE QUESTIONS (MCQ's)

Which is not related to other?

The integuments and the organs evolved in developed from

The animals without a body cavity are called

The body wall of Nematodes is

Which of the following is a phylum

The mollusca is other coelomate pigment is

Pseudocoelomate is present in

Parthenogenesis is characteristic feature of

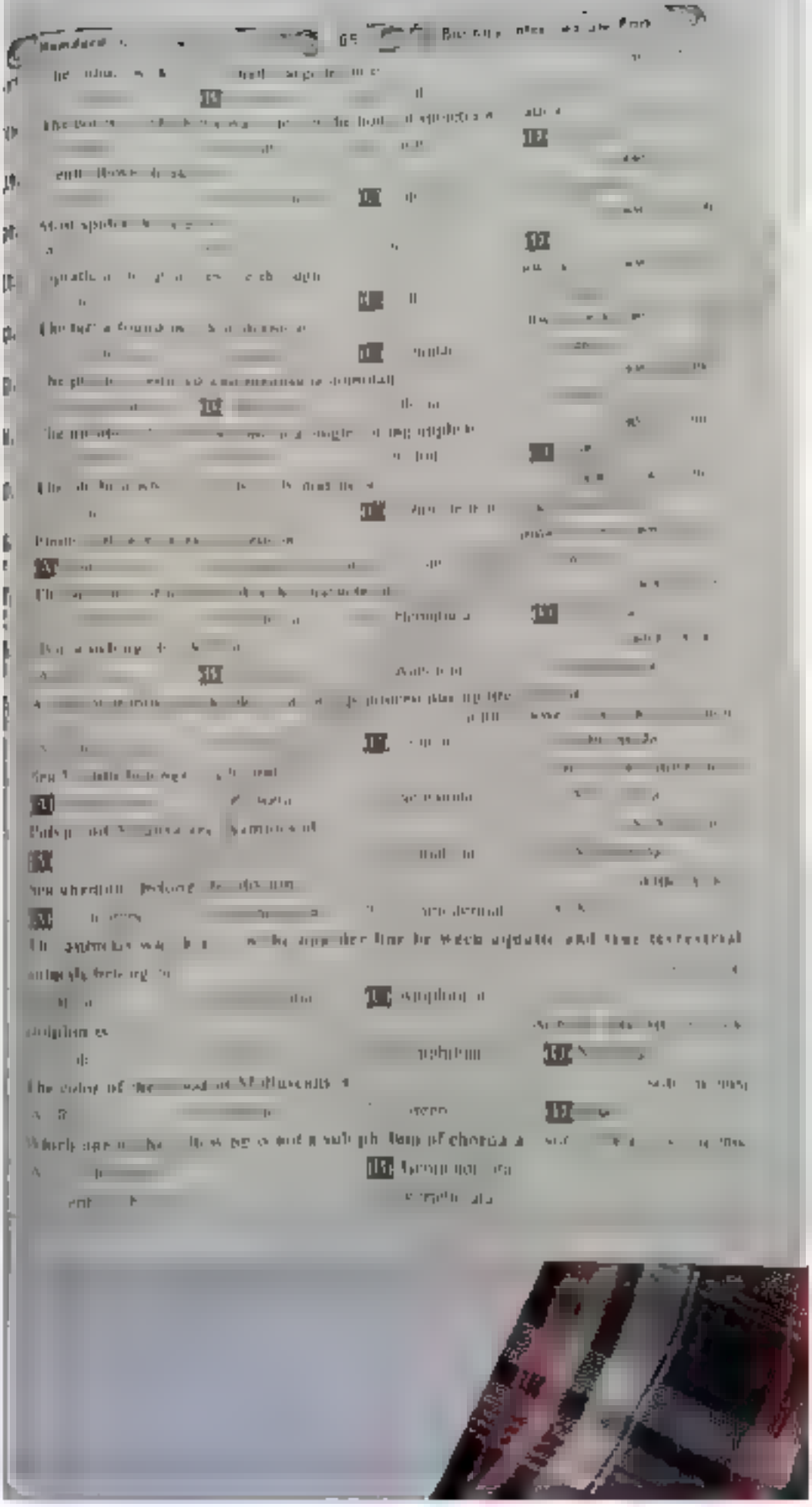
The cartilaginous fishes contain urea

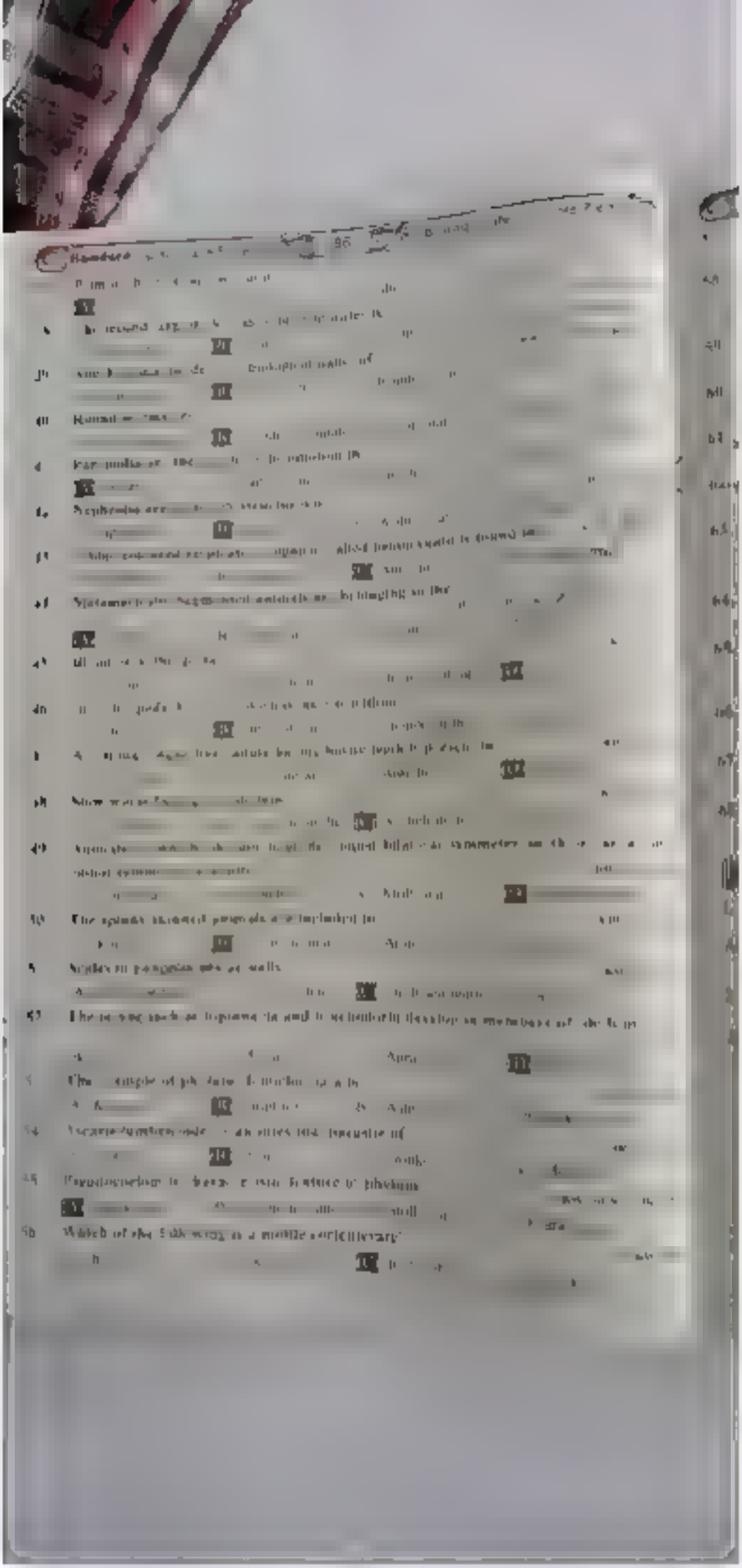
Which is the sequence of bones in the immunoglobin class

The inner layer of body sponges is called

Number of legs in arachnids is

Animals that have three body cavities filled with haemocoelic fluid

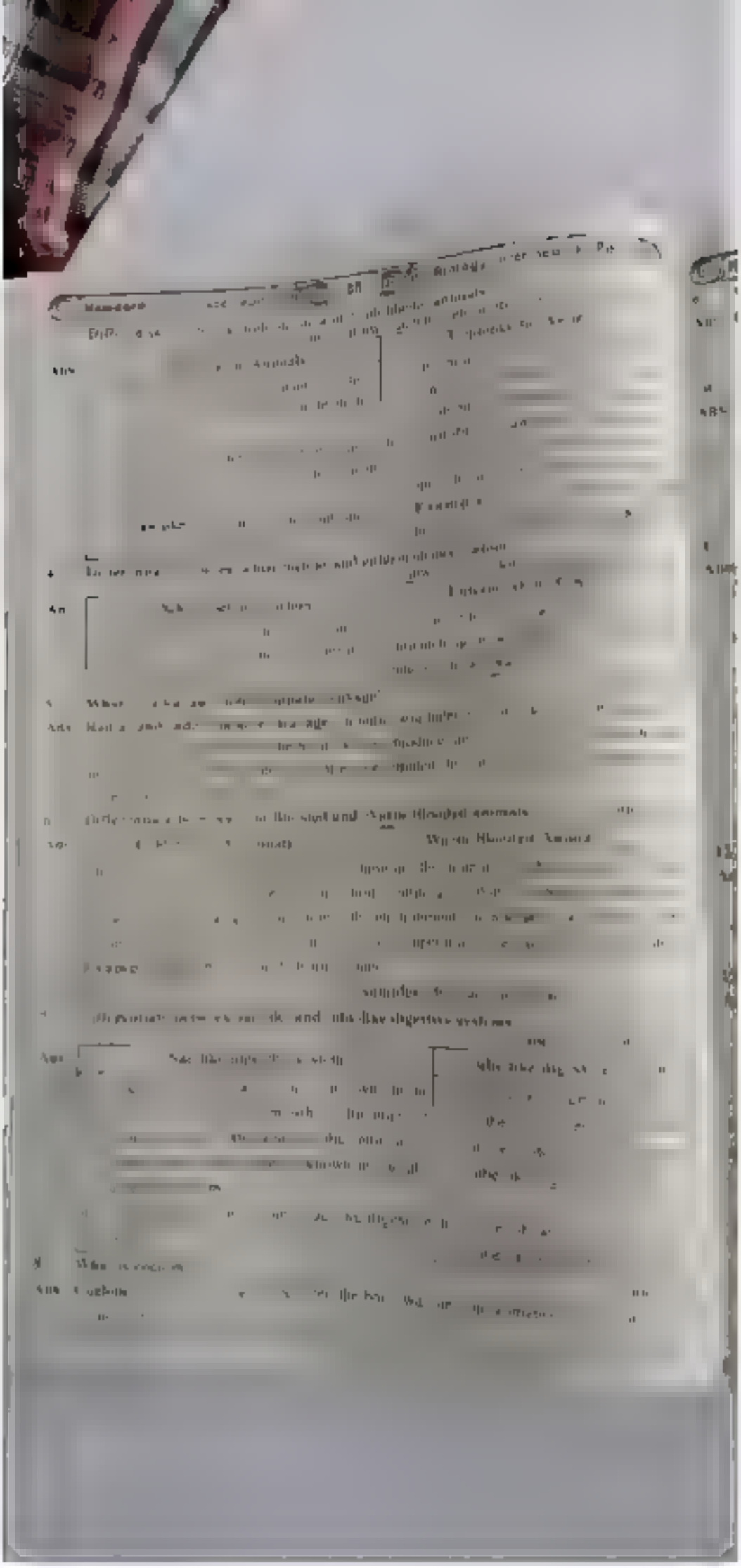


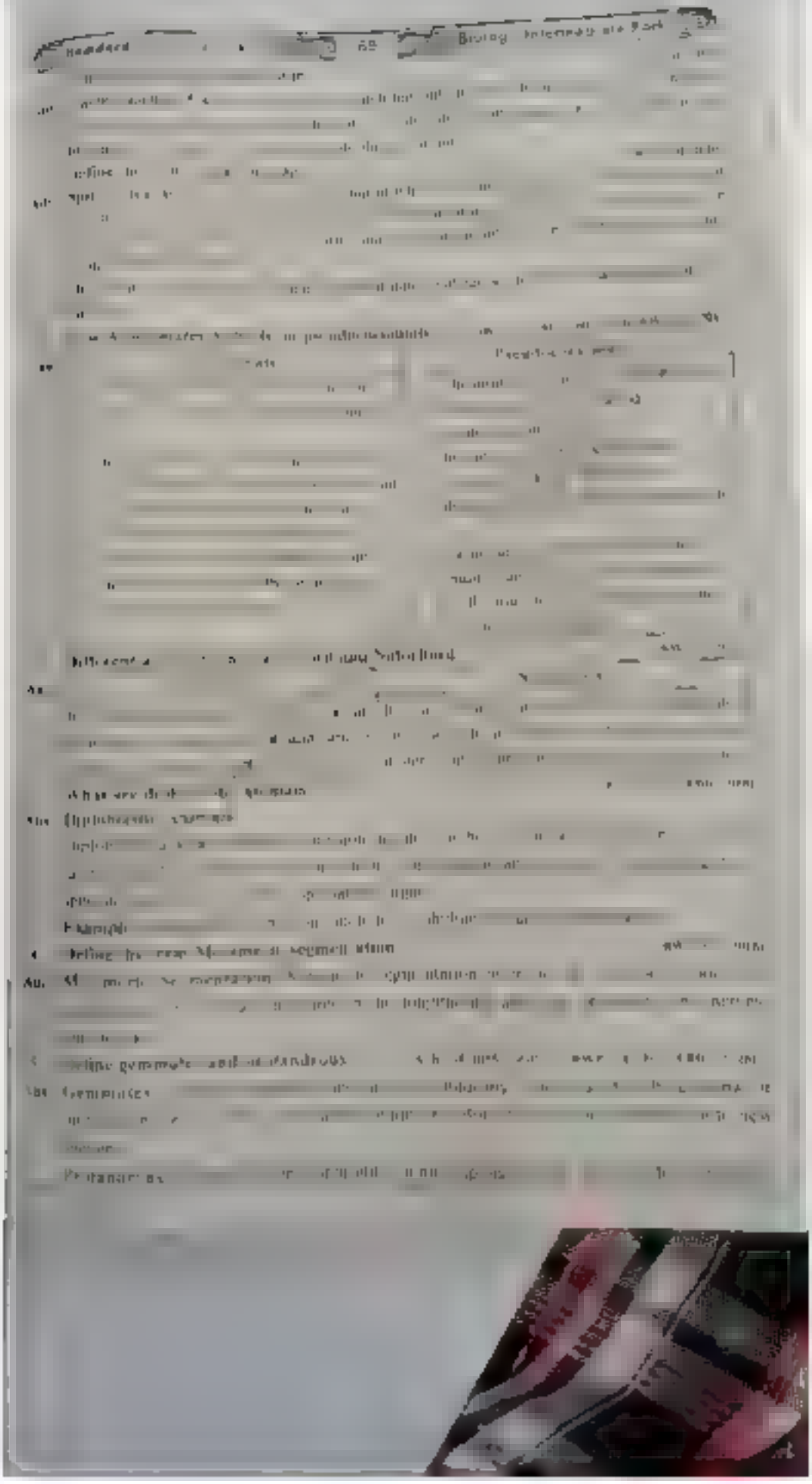


[illegible]

SHORT ANSWER QUESTIONS

[illegible]





Question [illegible]

[illegible]

6 **Write down the importance of sponges** [illegible]

Ans. Importance of sponges

[illegible]

7 **What are Paramecia and Mitosis?**

Ans. Paramecia [illegible]

Mitosis Illustration [illegible]

8 **How insects differ from a [illegible]**

Ans.

Insects	Physiology
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

9 **What are cnidocytes?**

Ans. Cnidocytes [illegible]

10 **Differentiate between polyps and medusae**

Ans.

Polyps	Medusae
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

What are coral reefs? [illegible]

Ans. Corals Reefs [illegible]

Importance of corals [illegible]

12 **Give the reproduction in platyhelminthes.**

Ans. Reproduction in Platyhelminthes: [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Ans. Harmful effects of insects

[illegible]

4. [illegible] of Earthworm

Ans. Importance of Earthworm

[illegible]

5. Write names and harms of any two harmful mollusks

Ans. Harmful Mollusks

[illegible]

11. Write the names of four harmful insects

Ans. Four harmful insects

[illegible]

12. What are harms caused by [illegible]

Ans. Harmful effects of insects

[illegible]

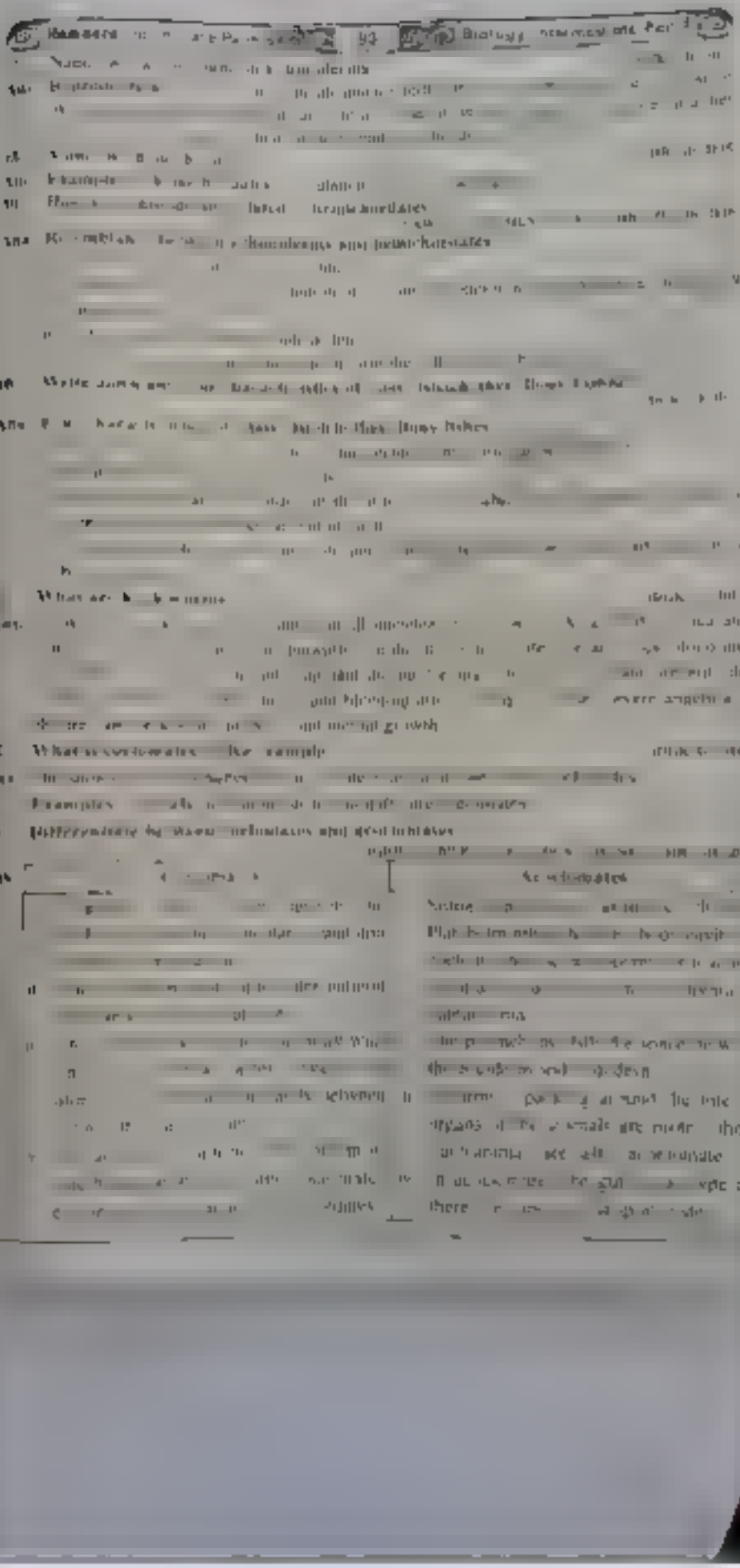
13. How does transport of gases take place in arthropods?

Ans. [illegible] Respiration in aquatic arthropods [illegible]

14. Define Water Vascular system in Echinoderms?

Ans. Water Vascular system in Echinoderms

[illegible]



44 What is Harvesting?

Ans **Harvesting**

49 Give two benefits of rotation of crops.

Ans **Two benefits of rotation of crops**

50 What is a crossbreed?

Ans **Hybrids**

47 What is the Nobel Prize? Write down its significance.

Ans

48 How is the Spiral Cleavage different from the Radial Cleavage?

Ans

49 Why are triploblastic animals?

Ans **Triploblastic Animals**

Example

50 Name any two beneficial insects.

Ans **Two Beneficial Insects**

51 What are pseudocoelomates and coelomates?

Ans **Pseudocoelomate**

Example

Coelomates

Example

52 Name any two Layers found in Echinoderms.

Ans **Two Layers found in Echinoderms**

ESSAY TYPE QUESTIONS

CHAPTER 11

Bioenergetics

MULTIPLE CHOICE QUESTIONS (MCQ's)

1. [illegible] phosphate [illegible] ATP release [illegible]

2. Chlorophyll a is found in all photosynthetic organisms except [illegible]

3. [illegible] wavelengths of [illegible]

4. [illegible] relationship in biological [illegible]

5. [illegible] oxygen released during photosynthesis [illegible]

6. [illegible] hemoglobin [illegible]

7. [illegible] wavelength [illegible] absorbed by chlorophyll is

8. [illegible] potential [illegible] from

9. The [illegible] length are

10. The process by which H^+ gradient across membrane [illegible] formation is called

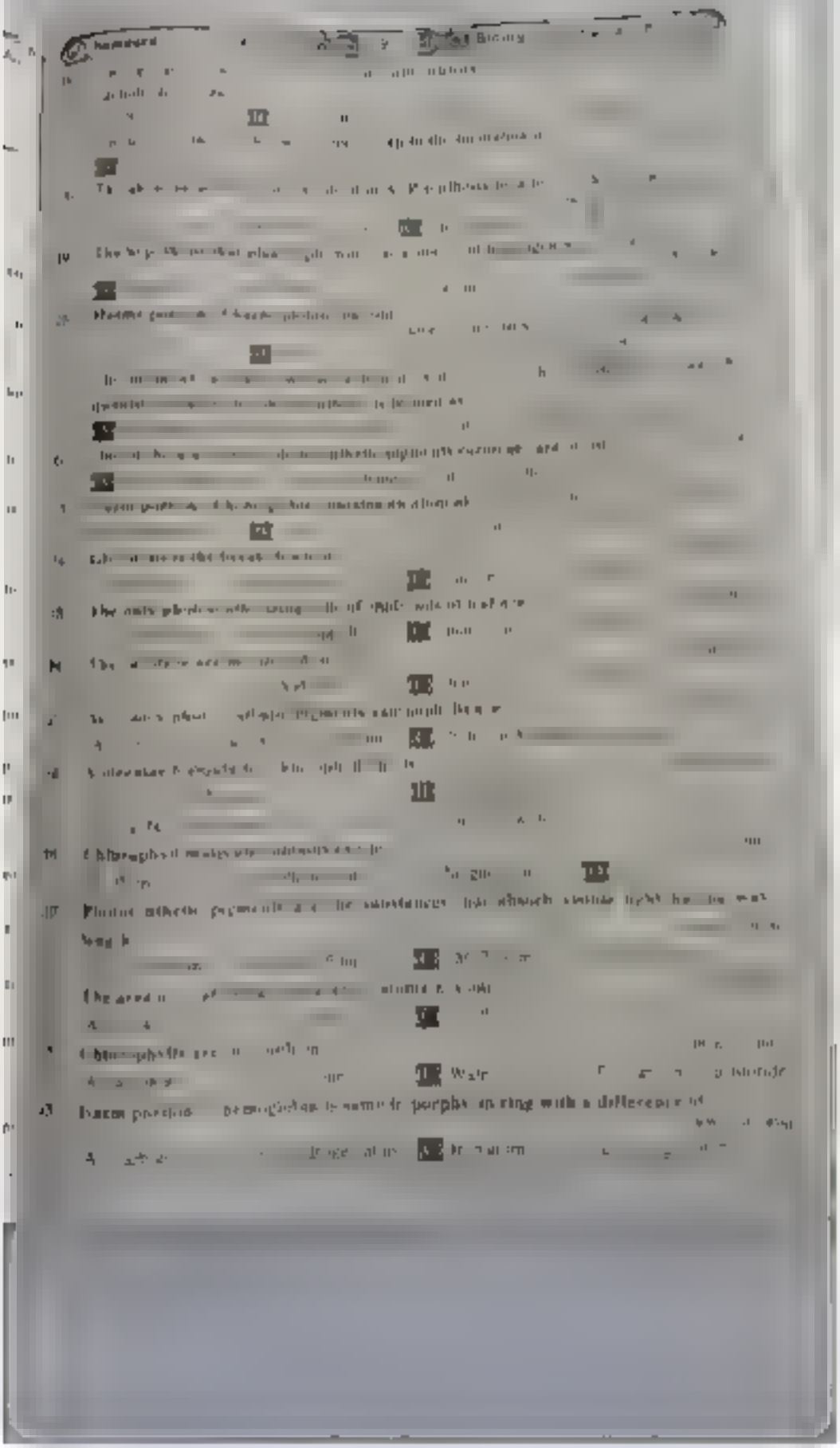
11. The percentage of photosynthesis carried out by terrestrial plants is about

12. The first [illegible] was obtained by biologist T. W. Engelmann in

13. In yeast the products of anaerobic respiration are

14. Enzymes involved in cellular respiration are found in

15. Magnesium of chlorophyll is replaced in haemoglobin by



The water splitting complex of photosystem II that releases oxygen is called

The breaking of terminal phosphate in ATP release about

Photosynthetic pigments organized into clusters are called.

During respiratory chain Coenzyme Q is oxidized by

The final product of glycolysis is

The first action spectrum was obtained by

Conversion of one pyruvic acid into one acetyl Co-A gives off one molecule

Carbon dioxide enters the leaves through:

Daily rhythmic opening and closing of stomata is:

Absorption of blue light is maximum at

A great deal of energy is released during

Which one is not the phase of Calvin cycle?

A graph showing absorption of light of different wavelengths by a pigment is called

The dark reaction for photosynthesis occurs in:

In the first step of citric acid cycle acetyl-Co-A reacts with oxaloacetate to form

An instrument that measures the relative ability of different pigments to absorb different wave lengths of light is called.

A Infrared spectrometer

B Photometer

C Potometer

D Spectrophotometer

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

SHORT ANSWER QUESTIONS –

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

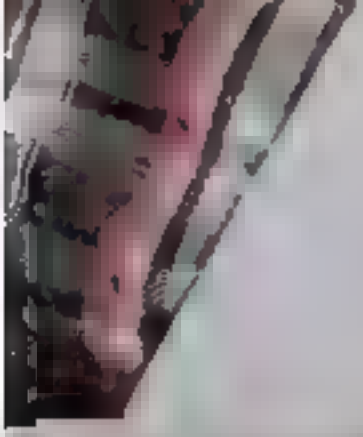
[illegible]

[illegible]

[illegible]

[illegible]

Photosynthesis	Respiration
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]



Energy Capturing and Energy Releasing

Photosynthetic equation: A chemical reaction

Q What is compensation point? What is chemical?

Ans Compensation Point: The point at which the plant is producing enough food to meet its own needs and release oxygen into the atmosphere.

Q What are the main parts of a chlorophyll molecule and what is Porphyrin Ring?

Ans **Main Parts of Chlorophyll Molecule:** [illegible]

Porphyrin Ring: [illegible] carbon dioxide [illegible]

Q What are aerobic and anaerobic respiration?

Ans **Aerobic Respiration:** Respiration that occurs in the presence of [illegible]

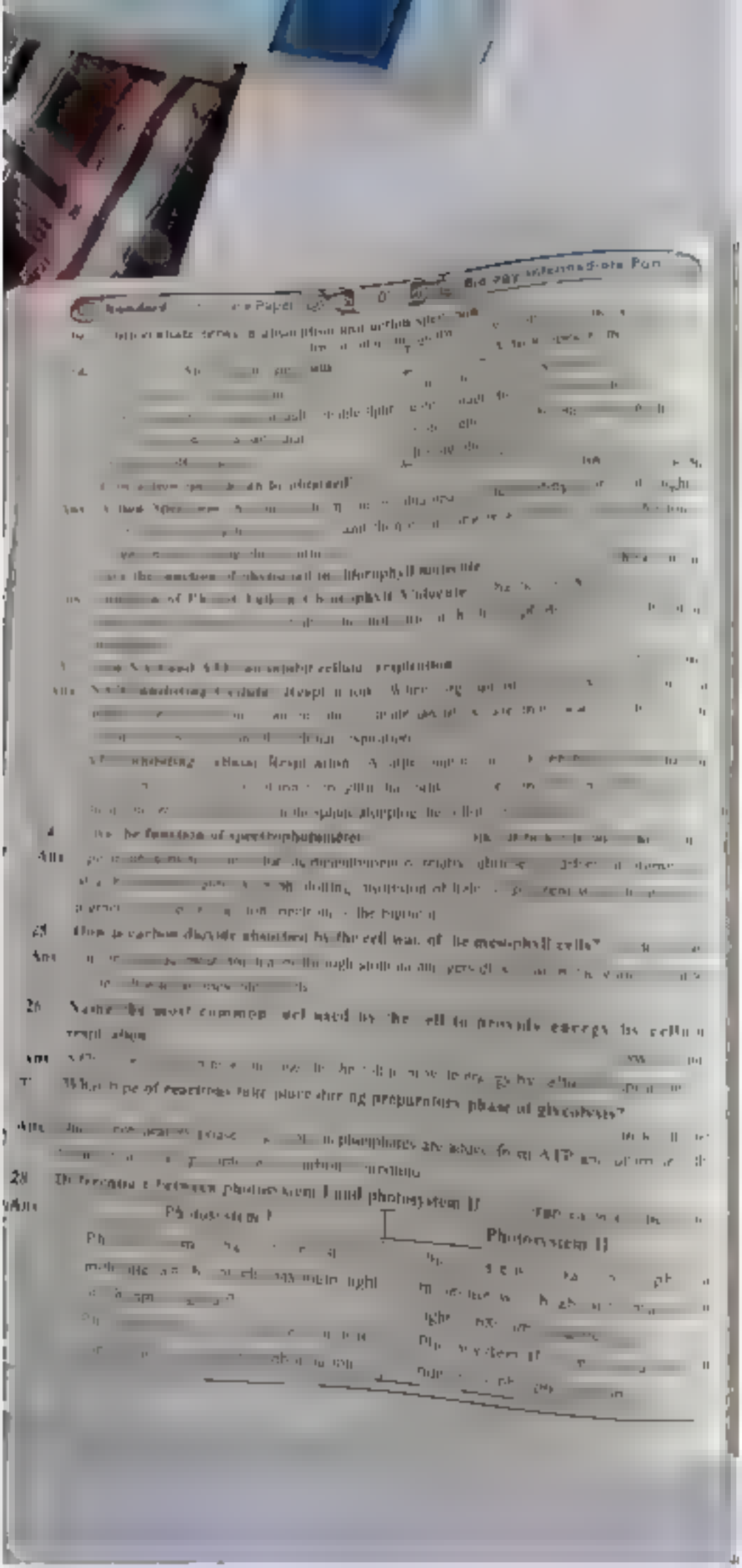
Anaerobic Respiration: Respiration that occurs in the absence of [illegible]

Q What is the product of light reactions?

Ans **Product of Light Reactions:** [illegible]

What are Thylakoids?

Ans. Thylakoids [illegible] pigments and chlorophyll [illegible]



Standard Paper

25 How is carbon dioxide absorbed by the cell wall of the chlorophyll cells?

Ans

26 Name the most common sugar used by the cell for immediate energy for cellular respiration.

Ans

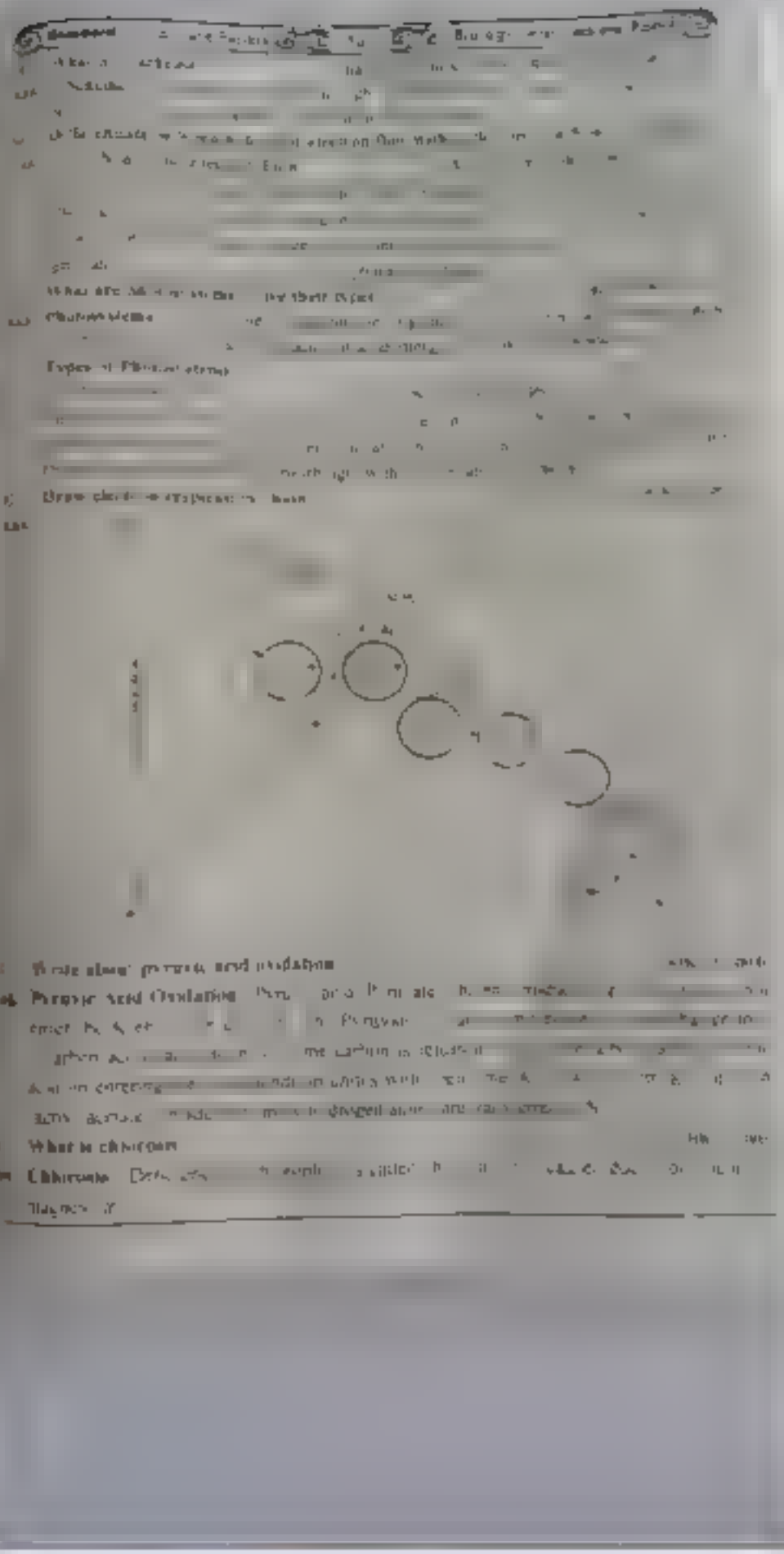
27 What type of reactions take place during preparatory phase of glycolysis?

Ans

28 Differentiate between photosystem I and photosystem II.

Ans

Photosystem I	Photosystem II



[illegible]

[illegible]

[illegible]

41. What is meant by internal respiration?

Ans. **Internal Respiration** [illegible]

42. What is [illegible]? Where it takes place in the cell?

Ans. [illegible]

43. What is importance of ATP?

Ans. **Importance of ATP**

[illegible]

44. Differentiate between aerobic and anaerobic respiration.

Ans.

[illegible]	[illegible]

45. What is [illegible]?

Ans. **External Respiration** [illegible]

46. What is meant by [illegible] respiration?

Ans. [illegible]

47. What are carotenoids?

Ans. **Carotenoids** [illegible]

[illegible]

Ans. Anaerobic [illegible] [illegible]

[illegible]

Q. What is a pigment, name one chlorophyll molecule?

Ans. Pigment is any of [illegible] chlorophyll molecule. [illegible]

Q. What are [illegible]?

Ans. [illegible]

Q. Show it was proved that oxygen released during photosynthesis comes from water and not from CO_2.

Ans. [illegible]

Q. Write down phases of possible reliable respiratory unit.

Ans. **Phases of Aerobic Cellular Respiration**

[illegible]

[illegible]

[illegible]

[illegible] equation

[illegible]

Potential energy

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Q9 What is the role of an open complex in photosynthesis?

Ans Role of antenna molecules in photosynthesis.

Q10 What is biological oxidation?

Ans Biological oxidation

Q11 Define absorption spectrum along with its diagram.

Ans Absorption Spectrum

Q12 How the slope of graph is used with a NaOH is formed

Ans. Formation of NaOH

Q13 What is a photosystem? Name its two parts or components.

Ans Photosystem

ESSAY TYPE QUESTIONS

Q1 Prove that water is a source of oxygen photosynthesis.

Q2 Describe water as important reactant in photosynthesis

Q3. Write a note on structure of Mitochondria

Q4. Explain the chlorophyll in the [illegible] photosynthetic [illegible] in plants

Q5. Discuss the role of [illegible] in photosynthetic [illegible]

Q6. Briefly describe the steps involved in the non-cyclic photophosphorylation.

Q7. Describe in detail [illegible] photophosphorylation

Q8. Give the [illegible] of non cyclic electron flow in photosynthesis.

Q9. Describe chemosynthesis in detail

Q10. Explain light independent reaction in detail.

Q11. Draw and label / schematic non-cyclic photophosphorylation

Q12. Draw and describe [illegible] cycle in photosynthesis

Q13. What is Respiration? Write detail on Anaerobic respiration

Q14. Differentiate between Aerobic and Anaerobic Respiration

Q15. What is [illegible] Sketch its various [illegible]

Q16. Explain krebs cycle [illegible] cells outside of krebs cycle

Q17. Describe citric acid cycle with appropriate diagram.

Q18. Describe respiratory chain

Q19. What is oxidative phosphorylation? Discuss

Q20. Describe the role of water in photosynthetic [illegible]

Q21. Write note on Calvin cycle

Q22. Describe respiratory electron transport chain

Q23. What is anaerobic respiration? Discuss its types.

Q24. Draw glycolysis. Give its energy balance

Q25. Explain Electron Transport Chain in Mitochondria.

❖❖❖❖

CHAPTER 21

Nutrition

MULTIPLE CHOICE QUESTIONS (MCQ's)

[illegible] is secreted by gastric glands' cells in stomach

A. Mucous cell B. [illegible] C. Parietal cells D. Zymogenic cells

1. Liver secretes bile into

A. [illegible] B. [illegible] C. Duodenum D. [illegible]

2. The absorption of water and salt does not take place due to infection, drug action or constipation leads to a condition known as

A. Diarrhea B. [illegible] C. Dysepsia D. [illegible]

4. Which is not related to gastric juice in humans?

A. Pepsin B. [illegible] C. [illegible] D. Amylase

5. These animals have large colons

A. [illegible] B. [illegible] C. [illegible] D. Opossum

Carnivorous plants live in soils that are deficient in

A. Potassium B. [illegible] C. Nitrogen D. Magnesium

7. Which one is a pitcher plant?

A. Pitcher plant B. Venus' [illegible] C. Sundew D. Dodder

8. The organism that lives upon or within another organism is called

A. Predator B. Prey C. Parasite D. [illegible]

9. Which one of the following is not a carnivore?

A. Cat B. Dog C. [illegible] D. Deer

10. The human stomach is situated below the

A. Diaphragm B. Liver C. Kidneys D. Spleen

11. Which are not omnivores

A. Bears B. [illegible] C. [illegible] D. Pigs

12. The process of taking in food is

A. Digestion B. Ingestion C. Egestion D. Assimilation

13. In plants stunted growth of roots is due to deficiency of

A. Potassium B. Phosphorus C. Magnesium D. Nitrogen

14. In Hydra, endodermal cells get food from ectodermal cells by

A. Osmosis B. Active transport C. Facilitated Diffusion D. [illegible]

15. The animals which eat both plants and animals are called

A. Herbivores B. Carnivores C. Filter Feeders D. Omnivores

20. Elimination of undigested matter as an animal is called
A. Excretion B. [illegible] C. [illegible] D. Digestion

21. Collection of products of digestion for production of energy synthesis of cellular material is
A. Absorption B. Digestion C. Assimilation D. Ingestion

22. The first part of small intestine is called
A. Rectum B. Ileum C. Jejunum D. Duodenum

23. The middle part of the small intestine of man is called:
A. Jejunum B. Duodenum C. Ileum D. Colon

24. Tentacles is a characteristic of
A. Hydra B. Sponge C. Amoeba D. Euglena

25. Sites of Digestion in the digestive system of man are
A. [illegible] B. [illegible] C. [illegible] D. [illegible]

26. Sublingual glands are located below the
A. Jaw B. Ear C. Tongue D. Above

27. Carbohydrate digesting enzymes are called.
A. Lipase B. Amylase C. Protease D. Lipase

28. Which of the following secrete pepsinogen
A. Mucus cells B. Parietal cells C. Chief cells D. Zymogen cells

29. Incomplete or imperfect digestion is called:
A. Food poisoning B. Obesity C. Dyspepsia D. Beer

30. Which type of cells in human stomach secrete Gastrin
A. Mucus cells B. Parietal cells
C. Zymogen cells D. Enterochromaffin cells

31. A plant requires Nitrogen and Sulphur for its
A. [illegible] B. Energy C. Structural synthesis D. Growth development

32. Gastric secretion is inhibited by
A. Bile B. Pancreatic juice
C. Secretin D. Gastrin

33. Some bacteria break down the proteins of dead plants and animals and release
A. Potassium B. Phosphorus C. Nitrates D. Oxygen

34. The uptake of the digestible food molecules from the digestive region across the membrane into the cell is called:
A. Ingestion B. Digestion C. Absorption D. Assimilation

35. Biological name of Sunflower is
A. Dorcas musipula B. Helianthus annuus
C. Samaccia purpurea D. Mangifera indica

36. Rodents are:
A. Herbivores B. Carnivores C. Omnivores D. Omnivore

37. The length of Jejunum is about:
A. 7 m B. [illegible] m C. 4 m D. 4 m

Which one of the following is not a [illegible]

[illegible]

33. Bile pigments are accumulated in blood, malfunction known as:

[illegible]

34. Emulsification of the fat is done by:

[illegible]

35. Gallstones are formed in the gall bladder due to the precipitation of:

[illegible]

36. The length of Duodenum of human is about:

[illegible]

37. In man most of the digestion takes place in:

[illegible]

38. Bacteria which produce vitamin K are present in:

[illegible]

39. Flavin gastric secretion is an important factor for:

[illegible]

40. One of the following plays a very antiseptic role in the oral cavity:

[illegible]

A mammalian dentition is slightly differentiated into:

[illegible]

41. Each villus is richly supplied with blood capillaries and vessel of lymphatic system called:

[illegible]

42. Muscles are arranged in [illegible] of which type:

[illegible]

SHORT ANSWER QUESTIONS

1. Why the feces are saprophyte

Ans. Features of saprophytes

Saprophytes produce [illegible] enzymes which digest the decaying [illegible] [illegible] and bacteria [illegible] saprophytes [illegible]

Some bacteria [illegible] the process of [illegible] plants and animal [illegible] these nitrogenous [illegible] up to the [illegible] and [illegible] the [illegible] nitrogen [illegible]

2. Differentiate between Absorption and Assimilation

Ans.

Absorption	Assimilation
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

10 [illegible] of food digestion [illegible] in man

Ans Food digestive tract in man

[illegible]

Where is Hydrochloric Acid [illegible]

Ans Hydrochloric Acid [illegible]

[illegible]

11 Name the enzymes [illegible] in pancreatic juice

Ans [illegible]

12 How is food [illegible]

Ans **Swallowing of food** [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

13 Name characteristic processes involved in holozoic nutrition

Ans **The characteristic processes involved in holozoic nutrition**

Ingestion [illegible] Absorption [illegible]

14 **Define digestion and egestion**

Ans **Digestion** Digestion [illegible] of complex organic [illegible] into simpler diffusible [illegible] by digestive enzymes

Egestion Egestion [illegible] of undigested matter [illegible]

15 **Define gastrovascular cavity with example**

Ans **Gastrovascular cavity** [illegible] cavity [illegible] which functions as a digestive [illegible] Hydra [illegible]

16 **How Pepsinogen is converted into Pepsin?**

Ans **Conversion of Pepsinogen into pepsin** Pepsinogen [illegible] exposed to the acidic medium of [illegible] gastric juice activates pepsinogen [illegible] when it [illegible] the stomach stimulates the gastric glands [illegible] and pepsinogen. The [illegible] pepsinogen [illegible] pepsin

Q. What is carnivorous and endoparasitic?

Ans. Carnivorous

[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

Q. What is hunger pang?

Ans. Hunger Pang [illegible]

Q. Define Digestion.

Ans. Digestion [illegible]

Q. Write down the location of stomach.

Ans. Location of Stomach

[illegible]

Q. Differentiate between chyme and bolus.

Ans.

Chyme	Bolus
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

Q. Describe the three kinds of villi in each [illegible] glands.

Ans. Composition of Gastric Glands

[illegible]

Composition of Gastric Juices [illegible]

[illegible]

[illegible]

[illegible]

ESSAY TYPE QUESTIONS

Q.1 Name Photosynthetic Pigments in plants?

Q.2 Plants [illegible] be provided nutrients to [illegible] green plants

Q.3 [illegible] two examples [illegible] plant or animals

Q.4 Write a note on nutrition in amoeba [illegible] at least [illegible] examples

Q.5 Explain different process involved in digestion and absorption in human

Q.6 Describe digestion in great length of [illegible]

Q.7 Explain digestion in human [illegible]

Q.8 Describe the [illegible] of teeth and tongue

Q.9 Write a [illegible] of human

Q.10 Describe the function present in [illegible] Juice

Q.11 Describe the role of pancreas, liver in food digestion in Human

Q.12 Describe the [illegible] in human digestion

Q.13 Write a note on the following. Amoeba [illegible] Bacteria [illegible]

Q.14 Describe any [illegible] related to nutrition.

Q.15 Write a note on Food Processing.

Q.16 How [illegible] plants meet their demands of organic compounds. Describe three methods

Q.17 Explain causes and remedy of food poisoning and obesity

Q.18 Describe events that occur during the process of swallowing

✧✧✧✧

CHAPTER 13

Gaseous Exchange

MULTIPLE CHOICE QUESTIONS (MCQ's)

[illegible]

Ans. [illegible]

[illegible]

During [illegible] [illegible]

[illegible]

[illegible]

Ans. [illegible]

[illegible]

Ans. [illegible]

[illegible]

Ans. [illegible]

[illegible]

Ans. [illegible]

[illegible]

Ans. [illegible]

[illegible]

Ans. [illegible]

[illegible]

Ans. [illegible]

[illegible]

Ans. [illegible]

[illegible]

Ans. [illegible]

[illegible]

Ans. [illegible]

[illegible]

Ans. [illegible]

[illegible]

[illegible]

[illegible]

SHORT ANSWER QUESTIONS

Define respiration surface.

Respiration surface is the surface where gases or exchange take place.

Respiration surface in Animals

What are lateral line?

Parabronchi

[illegible]

[illegible]

Ans [illegible]

6 **Differentiate between inhalation and Exhalation**

Ans

[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

Again [illegible]

Ans

[illegible]	[illegible]
[illegible]	[illegible]

8 **What is [illegible] respiration**

Ans [illegible]

9 **Give the difference between [illegible] and Parabronchi**

Ans

[illegible]	Parabronchi
[illegible]	[illegible]
[illegible]	[illegible]

10 **Define Parabronchi and Bronchioles**

Ans **Parabronchi** [illegible]

Bronchioles [illegible]

11 **Name different parts of air passage way of man**

Ans **Parts of air passage way of man**

[illegible]	[illegible]	Pharynx
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

Ans

10 [illegible]

Ans

21 [illegible]

Ans (i) Percentage in Arterial Blood

(ii) Percentage in Venous Blood

22 How does temperature affect the oxygen carrying capacity of haemoglobin?

Ans Effect of temperature on transport of oxygen

Example [illegible]

23 How does carbon dioxide concentration affect the oxygen carrying capacity of haemoglobin?

Ans Effect of [illegible]

24 Write at least two different states of [illegible] transportation in blood.

Ans [illegible]

(i) Plasma Protein. [illegible]

25 Where carbonic anhydrase enzyme is present? Give its role.

Ans [illegible]

(i) Reactions at tissues: [illegible]

[illegible]

[illegible]

[illegible]

10. When the lungs are fully inflated, what is the total lung capacity?

Ans. [illegible]

11. Differentiate between inhalation and exhalation.

Ans. [illegible]

12. What are the conditions under which diffusion of gases between [illegible] with oxygen.

Ans. Factors affecting [illegible]

[illegible]

Temperature: [illegible]

13. What is the rate of breathing at rest and during exercise?

Ans. Rate of breathing at Rest: [illegible]

Rate of breathing during Exercise: [illegible]

14. Differentiate between inspiration and expiration.

Ans. **Inspiration:** [illegible]

Expiration: [illegible]

[illegible]

35. Difference between Haemoglobin and Haemocyanin

[illegible]	[illegible]

[illegible]

36. What is the composition of Sclerine

Ans. Composition of Sclerine [illegible]

[illegible]

37. Explain [illegible]

Ans. [illegible]

38. Write down [illegible]

Ans. Properties of Haemoglobin Solution in Animals [illegible]

i. Large Surface [illegible]

ii. Water Soluble [illegible]

iii. Iron Equivalent [illegible]

Vasodilation [illegible]

Capillary Network [illegible]

39. Give role of respiratory pigments

Ans. Role of Respiratory Pigments: Respiratory pigments [illegible] different [illegible] the blood

40. What are [illegible]

Ans. [illegible]

Function of [illegible]

[illegible]

4. How pH and temperature affect capacity of haemoglobin to combine with [illegible]

Ans. **Effect of pH on capacity of Haemoglobin to combine with oxygen:** [illegible]

Effect of Temperature on capacity of Haemoglobin to combine with oxygen: [illegible]

42. Write down the disadvantages of gas exchange in water environment?

Ans. **Disadvantages of gas exchange in water environment**

More dense: [illegible]

More viscous: [illegible]

43. Define the alveoli and its role in [illegible]

Ans. **Parabronchi:** [illegible]

Role: [illegible] are open at both ends and the air [illegible] the parabronchi [illegible] of gaseous exchange. The [illegible] flow in the [illegible] direction. Flow through the parabronchi [illegible] per cell it enters the blood.

44. What are stomata? Give their function.

Ans. **Stomata:** [illegible] of the leaf [illegible]

Function of stomata: Stomata facilitate gas exchange. [illegible] the intake of carbon dioxide and the release of oxygen which helps [illegible]

45. Why ventilation in water is far more difficult than air?

Ans. **Reason:** Mechanism of ventilation is [illegible] involved in the exchange [illegible] very [illegible] of water than the ventilation of air because water [illegible] times more dense than air.

46. Describe lung capacities.

Ans. **Lung Capacities:** The lung capacities are measurement of [illegible] capacity measures the maximum amount of air that can be inhaled or [illegible] respiration [illegible] the residual volume [illegible]

Define breakdown [illegible]

Ans. Breakdown [illegible]

What is the [illegible]

Ans. Spectrophotometer [illegible]

How much [illegible]

Ans. [illegible]

Difference between breakdown and [illegible]

Ans. [illegible]

What are [illegible]

Ans. Causes of [illegible]

ESSAY TYPE QUESTIONS

Q1 Define photoelectric [illegible] Explain the photoelectric [illegible]

Q2 Explain [illegible] and express [illegible] in man [illegible]

✧✧✧✧

Transport

MULTIPLE CHOICE QUESTIONS (MCQ's)

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

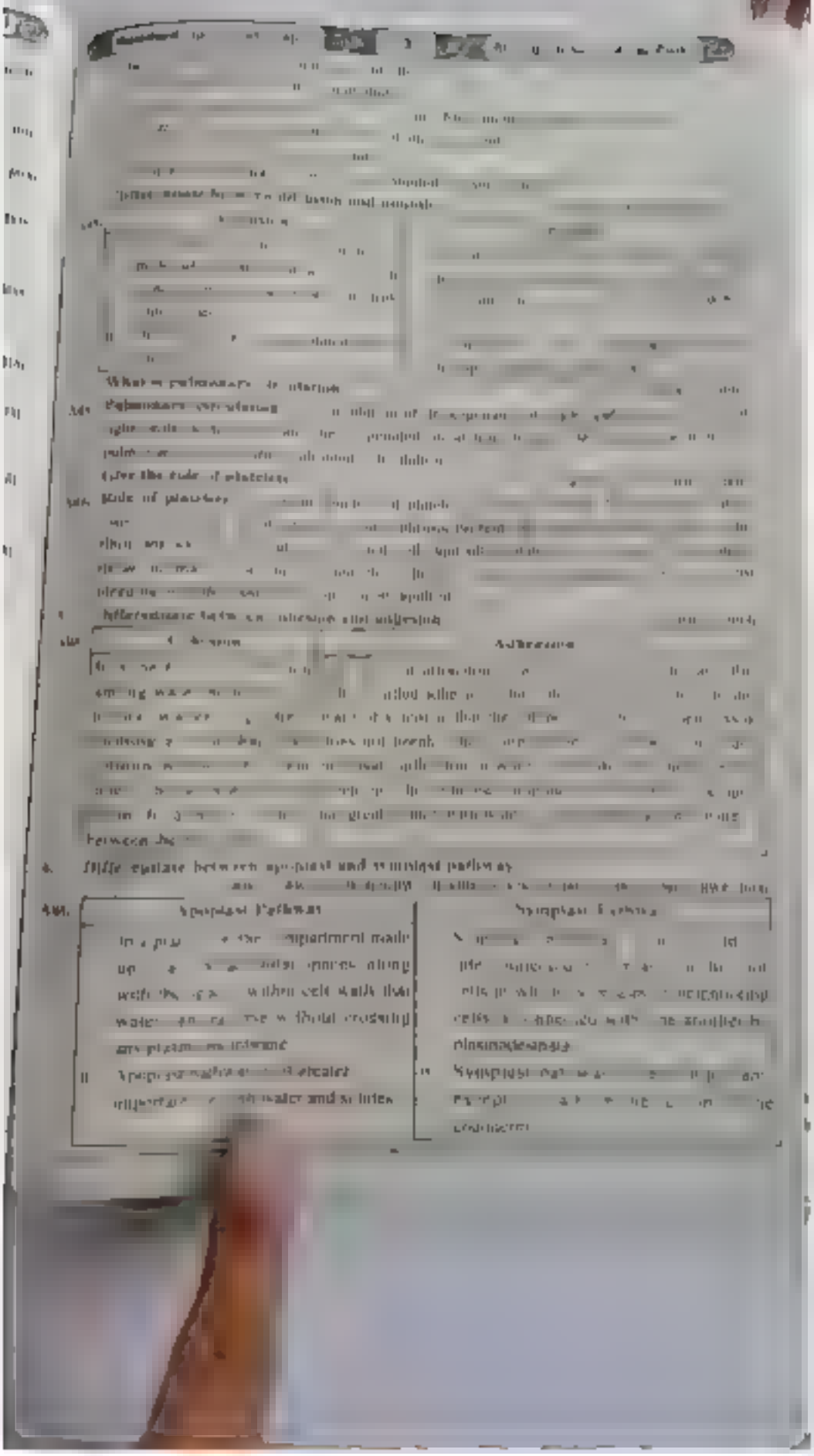
[illegible]

[illegible]

SHORT ANSWER QUESTIONS

1. State pressure flow theory

Ans. Pressure flow theory [illegible] is the most acceptable theory for the transport in the phloem. [illegible] hypothesis was first proposed by Ernst Münch in 1930. [illegible] The flow of solutes in the sieve elements is driven by an osmotic [illegible] pressure gradient source and sink.



[illegible]

[illegible]

Ans [illegible]

[illegible]	[illegible]
[illegible]	[illegible]

[illegible]

Ans

[illegible]	[illegible]
[illegible]	[illegible]

11. Define [illegible] What factors affect it?

Ans [illegible]

Factors affecting [illegible]

[illegible]

10. Define [illegible] What [illegible]?

Ans [illegible]

12. What factors are responsible for bleeding in plants?

Ans [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Examples [illegible]

[illegible]

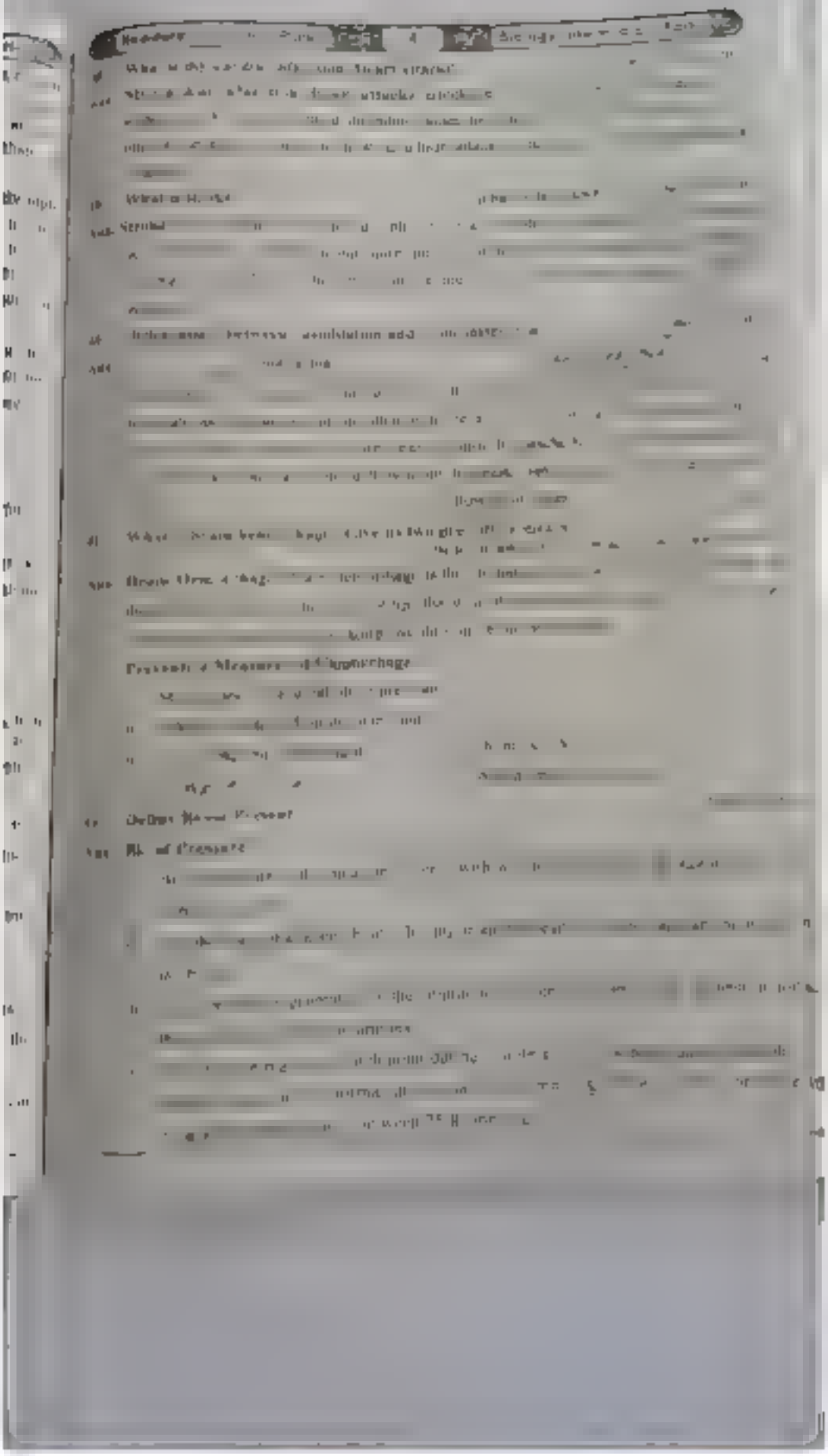
[illegible]

[

[illegible]

[illegible]

[illegible]



[illegible]

[illegible]

[illegible]

ESSAY TYPE QUESTIONS

Q1 [illegible]

Q2 [illegible]

Q3 [illegible]

Q4 Describe various functions of blood

Q5 Describe the composition of blood plasma

Q6 Write a note on white blood cells

Q7 [illegible] of blood plasma

Q8 Compare [illegible]

Q9 [illegible] differences between arteries and veins

Q10 What is [illegible] system

Q11 [illegible] functions of lymphatic system

Q12 Describe lymphatic system

Q13 Define [illegible] types

Q14 Low CO_2 concentration and humidity affect the rate of transpiration

Q15 What is [illegible]? Describe its phases

Q16 Explain the structure of [illegible]

Q17 Compare closed and open [illegible] valves

◆ ◆ ◆ ◆

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Paper No 01

Mojo'e

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[illegible]

[illegible]

Q3 Write short answers to any eight of the following questions.

[illegible]

Q4 Write short answers to any 4 [illegible] questions

(a) [illegible]

(b) [illegible]

(c) [illegible]

(d) [illegible]

(e) [illegible]

(f) [illegible]

SECTION II

Note: Attempt any THREE questions

Q5. (a) Differentiate between deductive and inductive reasoning with examples

(b) Describe the two hypotheses to explain the opening and closing of stomata

Q6 (a) Discuss water as medium of life. Also give its importance

(b) Discuss taxonomic status of fungi

Q7 (a) Describe different classes of bacteria on the basis of flagella

(b) Write a note on adaptation of Bryophytes for life on land

Q8 (a) Discuss the five Kingdom system of classification proposed by Robert Whittaker

(b) Draw and describe Calvin cycle in photosynthesis

Q9 (a) Write a detailed note on Endoplasmic Reticulum

(b) Discuss the process of nutrition in insectivorous plants

Paper No.02

BIOLOGY

Annual Paper 2014-2019

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

9. [illegible]

10. [illegible]

11. [illegible]

12. [illegible]

13. [illegible]

14. [illegible]

15. [illegible]

16. [illegible]

17. [illegible]

18. [illegible]

19. [illegible]

20. [illegible]

Roll No. _____ (To be filled in by the candidate)

Max. Marks: [illegible] **SUBJECTIVE TYPE** Time Allowed: [illegible] Hours

SECTION – I

Q2. Write short answers to any EIGHT (8) questions **16**

[illegible]

Q3. Write short answers to any EIGHT (8) questions **16**

[illegible]

Q4 Write short answers to any SIX (6) questions

SECTION - II

Note Attempt any THREE questions. 3 × 5

Q5. (a) What is hypothesis? Discuss briefly the deductive and inductive reasonings

(b) Describe the composition of blood plasma.

Q6 a) Give importance of water in nature.

(b) How asexual reproduction occurs in fungi

Q7 a) Discuss the process of Nutrition in Bacteria

(b) Describe gametophyte stage in the life history of Adiantum

Q8 (a) Describe Life Cycle of Bacteriophages (labelled diagrams)

(b) What is Glycolysis? Sketch its various steps only

Q9 (a) Described the structure and functions of Chloroplast.

(b) Describe digestion in oral cavity of man

Paper No. 03

BIOLOGY

Annual Paper 2014 2019

Roll No. [illegible] (To be filled in by the candidate)

[illegible] Marks [illegible]

(OBJECTIVE TYPE)

NOTE: [illegible] each objective type question as A, B, C and D. The choice which you think is correct [illegible] the circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question.

Q [illegible] 12

The branch of biology which deals with the study of social behaviour and communal life of human beings is: [illegible]

[illegible]

The [illegible] age of [illegible] [illegible]

[illegible]

[illegible] [illegible]

[illegible] [illegible] is [illegible] called [illegible]

[illegible]

[illegible] [illegible] with [illegible] [illegible]

[illegible]

[illegible] [illegible]

Pili are made up of special protein is called [illegible]

[illegible]

African sleeping sickness is transmitted by [illegible]

[illegible]

8. Pennatus monkeys are called:

(A) [illegible] (B) [illegible]

(C) [illegible] (D) [illegible]

9. The simplest of all bryophytes are

(A) [illegible] (B) [illegible]

(C) [illegible] (D) [illegible]

10. Which one of the following is not a subphylum of chordata?

(A) [illegible] (B) [illegible]

(C) [illegible] (D) [illegible]

All [illegible] belong to phylum

(A) [illegible] (B) [illegible]

(C) [illegible] (D) [illegible]

12. The first action spectrum was published by

(A) [illegible] (B) [illegible]

(C) [illegible] (D) [illegible]

13. The dark reaction for photosynthesis occurs in

(A) [illegible] (B) [illegible]

(C) [illegible] (D) [illegible]

14. Carbohydrate digesting enzymes are called

(A) [illegible] (B) [illegible]

(C) Proteases (D) [illegible]

15. Which type of cells in human stomach secrete Gastrin

(A) [illegible] (B) [illegible]

(C) [illegible] (D) [illegible]

16. Break down of all cell of lungs is called

(A) [illegible] (B) [illegible]

(C) [illegible] (D) [illegible]

17. Normal pH of human blood is.

(A) [illegible] (B) [illegible]

(C) [illegible] (D) [illegible]

Q4 Write short answers to any SIX (6) questions.

SECTION II

Note Attempt any THREE questions 3 × 8 = 24

Q5 (a) Explain the biological method for solving a biological problem

(b) Give functions of lymphatic system.

Q6 (a) What functions are performed by proteins in the bodies of living organisms?

(b) Describe and draw life cycle of Rhizopus.

Q7 (a) Describe different physical and chemical methods to control bacteria

(b) Give the list of various steps involved in the evolution of seed habit?

Q8 (a) Write a note on Acquired Immune Deficiency Syndrome (AIDS)

(b) Explain krebs cycle (Give only outline of krebs cycle)

Q9 (a) Differentiate between Prokaryotic and Eukaryotic cells

(b) Explain digestion in human stomach

Paper No 04

BIOLOGY

Session 2014-2019

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Q3 [illegible]

SECTION – II

Note: Attempt any FIVE questions.

Q6 a) Define the following branches of Biology:

i) Microbiology ii) Mycology

iii) Marine Biology iv) Biotechnology

(b) Describe cellular functions at length.

Q10 a) Describe albumin and globular proteins.

(b) Write a note on economic uses due to fungi.

Q7 (a) Compare Gram positive and Gram negative bacteria on the basis of cell wall.

(b) Write down the life cycle of adiantum.

Q11 (a) Define virus. Write a note on the characteristics of viruses.

(b) Describe the role of water in Photosynthesis.

Q9 a) Write a note on Mitochondria.

(b) Describe the role of large intestine in human digestion.

Paper No 05

BIOLOGY

Annual Paper 2014-2019

[illegible]

SECTION

Q1. Write [illegible] question

Q2. Write [illegible] question

Q6 Write [illegible] in any SIX of questions

SECTION II

Note: Attempt any THREE questions

Q6 a Differentiate between deductive and inductive reasoning with examples

b Define [illegible]. Give its types

Q6 a Describe primary and secondary structure of protein

b Give an account of Ascomycotes

Q7 a Write a note on use and misuse of antibiotics

b Describe the life cycle of an angiosperm plant.

Q8 a Sketch the structure of HIV

b Draw glycolysis. Give its energy balance

Q9 a Describe the structure and function of plasma membrane

b Discuss Heterotrophic Nutrition methods in plants

Answers

CHAPTER NO. [illegible]

[illegible]

[illegible]

SUBJECTIVE TYPE

[illegible]

Homework

Define bioenergetics

What are aerobic and anaerobic respiration?

Aerobic Respiration

Anaerobic Respiration

12.3 Short answer questions

What are four elements, and their proportion in human body

Ans

Standard

Ans Role of [illegible]

Ans Inhibitors

Short answer questions

Ans Example

Ans Differentiate between [illegible]

Section

[illegible]

[illegible]

Section

[illegible]

[illegible]

PAPER NO. 3

OBJECTIVE TYPE

SUBJECTIVE TYPE

[illegible]

Non-competitive Inhibitors [illegible]

[illegible]

(v) What is induced fit model of enzyme action, what proposed it?

Ans. **Induced fit Model of Enzyme Action:**

[illegible]

(vi) What is an epoxyzyme?

Ans. **Answer:** [illegible]

(vii) Why are mosquitoes called death angel?

Ans. [illegible] they contain [illegible] are [illegible] called death angel.

(viii) What do you mean by budding and parasexuality?

Ans. **Parasexuality:** [illegible] is a special kind of genetic recombination [illegible] in which [illegible] of homologous [illegible] are [illegible]

Budding: [illegible] in which [illegible] which [illegible] simple sexually [illegible] budding.

(ix) What are harms caused by insects?

Ans. **Harmful effects of Insects:**

1. Many [illegible] of mosquitoes [illegible] organisms [illegible] and [illegible] diseases.
2. The [illegible] cause [illegible] organisms [illegible] cause [illegible] hepatitis etc.
3. Some species of Trypanosoma cause disease in cattle.
4. A number of insects as eggs or [illegible] fruits and other commercial crops such as [illegible] cotton and [illegible] vegetable etc. The larvae of these insects damage [illegible] the crops resulting in economic loss to farmers. e.g. [illegible]

(x) Give three basic characteristics of chordates.

Ans. **Basic characteristics of chordates:** All chordates possess three basic characters [illegible] are as follows:

1. All chordates possess the [illegible] chord.
2. All chordates have central nervous system that is dorsal in position and is [illegible]
3. All chordates develope paired gill openings in embryonic stage.

(xi) What are nematocysts? Give their function.

Ans. **Nematocysts**

1. Nematocysts are the stinging cells, embedded in tentacles and are deve[illegible] cnidarians.

[illegible]

Functions of [illegible]

[illegible]

(ii) [illegible]

Ans. [illegible]

(iii) [illegible]

Ans. [illegible]

Short answer questions

(i) [illegible]

Ans. [illegible]

Example [illegible]

(ii) [illegible]

Ans. [illegible]

Example [illegible]

(iii) [illegible]

Ans. **Functions of Carbohydrates**

[illegible]

chemical [illegible]

[illegible]

(iv) **Define polysaccharides and disaccharides**

Ans. **Polysaccharides** [illegible]

Disaccharides [illegible]

[illegible]

(v) **How vegetarians differ from plants?**

Ans. [illegible]

(ii) [illegible]

Ans. [illegible]

(iii) Write down the division, form, pigments and example of red algae

Ans. **Division: Rhodophyta**

Form: [illegible]

Pigments: [illegible]

Examples: [illegible]

(iv) Differentiate between homospory and heterospory

Homospory	Heterospory
[illegible] **Example:** [illegible]	[illegible] **Example:** [illegible]

(v) **Define flower. What are essential and non-essential parts of flower?**

Ans. **Flower:** [illegible] reproductive part of plant [illegible]

Essential parts of flower

Stamens and carpels are the essential or reproductive parts of a flower.

Non-essential parts of flower

[illegible] non-reproductive part of a flower.

(vi) **Differentiate between single and double circuit heart**

Single Circuit Heart	Double Circuit Heart
Single circuit [illegible] [illegible] generated [illegible] heart **Example:** The heart of fish functions as a single circuit heart.	Double circuit heart [illegible] 2 [illegible] generated [illegible] **Example:** The heart of [illegible] reptiles, aves and mammals functions as double circuit heart.

(vii) **Define blue baby and its cause**

Ans. **Blue Babies:** [illegible] ductus arteriosus [illegible] new born [illegible] blue babies.

Section

Short answer questions

Ans **Symptoms of Hepatitis**

Prevention of Hepatitis

Ans **Symptoms of Typhoid**

Prevention of Typhoid

Ans **Stages of Amoebiasis**

Example

Ans **Stages of Amoebiasis**

Ans **Unicellular**

Example

Ans **Components of Saliva**

SECTION [illegible]

Note: Attempt any [illegible] questions

Q.5 (a) Define [illegible] method for solving a biological problem

(b) [illegible] of Dolphin's system

Q.6 (a) What [illegible] performed by proteins in the body [illegible] organisms

(b) Describe and draw the cycle of Rhizopus

Q.7 (a) Describe different physical and chemical methods to [illegible]

(b) [illegible] the list of various steps involved in the evolution of [illegible]

Q.8 (a) Write a note on Acquired Immune Deficiency Syndrome [illegible]

(b) Explain Krebs cycle [illegible] only outline of Krebs cycle

Q.9 (a) Differentiate between Prokaryotic and Eukaryotic cells

(b) Explain digestion in human stomach

PAPER NO. 4

OBJECTIVE TYPE

Q.1 Multiple choice questions

[illegible]

SUBJECTIVE TYPE

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

What are the basic steps of genetic engineering?

Define chromosome mutation. Give an example.

What are hormones? Where are they produced?

Function of Lymph Nodes

Define Antigen and Antibody

Antibodies

Antigens

What is Passive Immunity?

Passive Immunity

[illegible]

[illegible]

Short answer questions

[illegible] What are the [illegible]

Microbial Nanoparticles

[illegible]

Nature of Microbial Nanoparticles [illegible]

[illegible]

Examples

[illegible]

[illegible]

[illegible] What are the [illegible]

Polyhouse

[illegible]

Structure of Microbial [illegible]

[illegible]

Function of Heterocysts

[illegible]

Disadvantage of [illegible]

[illegible]

[illegible]

[illegible]

SECTION [illegible]

Note: Attempt any [illegible] questions

Q5 (a) Define the following terms [illegible]

i. Microbiology ii. [illegible]

iii. Marine Biology iv. [illegible]

(b) Describe various functions of blood

Q6 (a) Describe fibrous and globular proteins

(b) Write a note on economic importance of [illegible]

Q7 (a) Compare Gram positive and Gram negative bacteria on the basis of cell wall

(b) Write down the life cycle of [illegible]

Q8 (a) Define virus. Write a note on the [illegible]

(b) Describe the role of water in photosynthesis

Q9 (a) Write a note on Mycorrhiza

(b) Describe the role of [illegible] in human digestion

PAPER NO: [illegible]

OBJECTIVE TYPE

Q.1: Multiple choice questions

[illegible]	2	[illegible]	4	[illegible]	[illegible]
4 [illegible]	6	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	10	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	14	[illegible]	15	[illegible]	[illegible]

[illegible]

SUBJECTIVE TYPE

SECTION

Q.1 Short answer questions

[illegible]

Ans. [illegible]

For example [illegible]

[illegible]

Q. What do you know about nomenclature of [illegible]?

Ans. Nomenclature of [illegible]

[illegible]

Q. Define [illegible] complex.

Ans. [illegible]

For example [illegible]

[illegible]

Q. Define [illegible]. What [illegible]

Ans. [illegible]

Q. What are complexes substitutes? Why they are called reversible substitutes?

Ans. Complex [illegible] substitutes [illegible]

[illegible]

Q. Why three metals are included in a higher periodicity?

Ans. [illegible]

[illegible]

Q. What are zeolites? Why they are named so?

Ans. Zeolites [illegible]

Standard [illegible]

[illegible]

[illegible]

Example [illegible]

What is [illegible]

Ans [illegible]

[illegible]

What is a [illegible]

Ans [illegible]

[illegible]

What do you know about flame cell?

Ans Flame Cell [illegible]

Short answer questions

Define [illegible] with an example

Ans [illegible]

[illegible]

What is Hydroponic culture technique [illegible]

Ans Hydroponic Culture Technique [illegible]

[illegible]

How intermediate filaments [illegible]

Ans [illegible]

[illegible]

Implications: If plasmolysed cell is placed in distilled water (which has higher water potential) the water molecules which move from distilled water through differentially permeable cell membrane into the cell, and the cell would become turgid and.

Q.5 Short answer questions.

(i) **Write a short note on AIDS.**

Ans. AIDS: AIDS is acronym for Acquired Immune Deficiency Syndrome. It is caused by the human immunodeficiency viruses (HIV).

Symptoms: The symptoms of AIDS include are rare cancer, sudden weight loss, swollen lymph nodes and general loss of immune function.

Prevention:

1. Avoid the direct contact with HIV.
2. Prevent intravenous drugs with common syringe.
3. Use sterile needles/syringes and utensils.

(ii) **What are mumps and measles?**

Ans. Mumps and Measles: Mumps and measles viruses belong to [illegible] They are large enveloped RNA viruses. Mumps is highly contagious with spread by airborne [illegible]. About 90% of adults are immune to it. Measles is one of the commonest diseases of the childhood and former population. This disease develops immunity in its victims.

(iii) **What is capsid and capsomeres?**

Ans. The complete, mature and infectious particle is known as virus. The virus are composed of a central core of nucleic acid, either DNA or RNA. Which is known as the genome and is surrounded by a protein coat, the capsid. Capsid give a definite shape to virus. Capsid is made up of protein subunits known as capsomeres. The number of a capsomeres is a characteristic of a virus.

(iv) **What are plasmids and what is their role in genetic engineering?**

Ans. Many bacteria have plasmids in addition to main chromosomes. They are the circular, double stranded DNA molecules. They are self replicating, and are not essential for bacterial growth and reproduction. They often contain drug resistant, heavy metals, fungicide and insect repellent genes on them. Plasmids can be extracted and used as vector to carry foreign gene into the host bacteria during genetic engineering processes.

(v) **Describe the three kinds of cells present in gastric glands.**

Ans. **Composition of Gastric Glands:**

1. Mucus cells secrete.
2. Parietal or oxyntic cells secrete hydrochloric acid.
3. Zymogen cells secrete pepsin.

Composition of Gastric Juices: Gastric juice is the secretions of three kinds of cells of gastric glands. Gastric juice contains mucus, HCL, and pepsinogen.

(vi) **Write the composition of pancreatic juice.**

Ans. The exocrine tissues of pancreas secrete a juice called pancreatic juice. The pancreatic juice has many enzymes. These enzymes digest the different components of food i.e. carbohydrates, fats and proteins. These enzymes are:

1. Amylase: It is also called amylopsin. It digests starch into maltose.
2. Lipases: It is a fat digesting enzyme. It hydrolyses fats into fatty acids and glycerol.

MDCAT BUNDANT BOOK (DR. TOUSEEF AHMAD)

3. **Trypsin:** It is secreted in inactive form called chymotrypsin. Trypsin after protease can hydrolyse and polypeptides.

(viii) How haemoglobin differ from myoglobin?

Ans. **Functions of Myoglobin:**

Myoglobin	Haemoglobin
1. Myoglobin consists of just one polypeptide chain associated with an iron containing ring structure which can bind with one molecule of oxygen.	1. Haemoglobin consists of four polypeptide chain associated with an iron containing ring structure which can bind with four molecules of oxygen.
2. The affinity of myoglobin to combine with oxygen is much higher as compared to hemoglobin.	2. Haemoglobin in man increases the oxygen carrying capacity of the blood about 75 times.

(viii) How pH and temperature effect capacity of haemoglobin to combine with oxygen?

Ans. **Effect of pH on Capacity of Haemoglobin to Combine with Oxygen:** The pH of blood influences the degree to which oxygen binds to haemoglobin. As the pH of the blood declines, the amount of oxygen bound to haemoglobin also declines.

Conversely an increase in blood pH results in an increased ability of haemoglobin to bind oxygen.

Effect of Temperature on Capacity of Haemoglobin to Combine with Oxygen:

Rise in temperature also causes a decrease in the oxygen-carrying capacity of blood, e.g. in the increased molecular activity.

(ix) How much Carbon dioxide is present in venous and arterial blood?

Ans. **CO_2 percentage in Arterial Blood:** Arterial blood contains about 50ml of CO_2 per 100 ml in arterial and venous blood.

CO_2 percentage in Venous Blood: Venous blood contains about 54ml of CO_2 per 100 ml of blood.

(SECTION – II)

Note: Attempt any TICKET questions.

I. (a) **Differentiate between deductive and inductive reasoning with examples.**

(b) **Define immunity. Give its types.**

II. (a) **Describe primary and secondary structure of protein.**

(b) **Give an account of Axonemes.**

III. (a) **Write a note on use and misuse of antibiotic.**

(b) **Describe the life cycle of an angiospermic plant.**

IV. (a) **Sketch the infection cycle of HIV.**

(b) **Draw glycolysis. Give its energy balance.**

V. (a) **Describe the structure and function of plasma membrane.**

(b) **Discuss Heterotrophic Nutrition methods in plants.**

BY TOP TALENTED DOCTORS OF QUSEEN AHMAD

ANSWER SHEET

Name:
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FUTURE DOCTORS (TOUSEEF AHMAD)

UP-TO-DATE · HAMDARD ·

SMART PAPERS

Informative Note

Knowledge is power and **HAMDARD KUTAB KHANA** is always working for the spread of knowledge, considering close co-operation with Education Department, it has always been an honour of **HAMDARD KUTAB KHANA** that it gives its readers awareness about the latest updates of Education Department. It also prepares the helping reading material according to the new syllabus.

Unfortunately, the process of education is interrupted this year just because of the Pandemic Covid-19. After viewing the current circumstances, Education Department has introduced the **Smart Syllabus** for all the classes according to the **Accelerated Learning Programme (ALP)** this year. So that the students would be able to complete the next annual examination 2021.

Now **HAMDARD KUTAB KHANA** has published the Up-to-Date papers according to the **Smart Syllabus** consisting of chapterwise Board Questions and annual papers for the convenience of the students.

Hopefully these papers will be beneficial for the students of intermediate to prepare the next annual examination and get success in the board papers.

It is hoped that our this effort of providing you complete help and guidance will be admired by all of you and this effort shall also receive the same prominent place in the hearts of the learned teachers and the students.

Thanks

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